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Part I: Co-operation and Association

UNITED STATES.

THE ORDER OF PATRONS OF HUSBANDRY ("THE GRANGE").

II. — GRANGE WORK AND IDEALS AND THE LATER PROGRESS OF THE ORDER (1).

In the June number of the *Bulletin* we gave an account of the origin of the Patrons of Husbandry, known popularly as the Grange, and traced the somewhat chequered history of the Order from its foundation in 1867 down to the year 1880. We described how the National Grange was founded in Washington by a small group of Government employees led by Oliver Hudson Kelley, how it achieved in a few years an enormous popularity, which, as it was based for the most part on an entire misconception of the Order's ideals and aims, was largely unsound, and how, when the bubble of popularity burst after a brief existence, the Order collapsed, and was saved only because the founders and a small remnant of their followers remained faithful to the original aims. In 1880 the fortunes of the Grange were at a very low ebb, and many people were under the impression that the Order has ceased to exist. Other organisations, frankly political in character and appealing, therefore, much more strongly to the average American farmer, had taken its place in the public estimation. The Grange in fact really prepared the way for a powerful political movement in which the farmers played a prominent part. It was inevitable that the Order should disappoint the hopes of those who had planned to use it as a party organisation, and it is a most fortunate circumstance that shortly after 1875, it definitely won

(1) The material for this chapter has been collected in the main from the *National Grange Monthly* and from the *Journal of Proceedings of the Annual Session of the National Grange*, from 1904 to 1914. Chapter I of the article on the Grange ("Origin and Early History") appeared in the *Bulletin* for June, pp. 1-16.

clear of the maelstrom of American politics. From that time onward the Order has confined itself to schemes of modest proportions connected almost invariably, with some phase of the rural betterment movement. The important difference is, that whereas the high-flown schemes of earlier years failed clamorously, the later schemes of the Grange have been quietly successful; so that without attracting a great deal of public attention it has really done much for the development of social life in the country, for the extension of agricultural instruction and the promotion of education generally, and for the improvement of agriculture. In this chapter we wish to pass in review some of the work accomplished, or at least attempted, by the Grange in these various directions, beginning with some account of the influence of the Order upon the social life of the country districts.

§ 1. THE GRANGE AS A SOCIAL CENTRE.

There is good reason for considering first the social activity of the Grange. No problem, during the last decade, has occupied more attention in the United States than that of rural betterment, and students of the problem have been unanimous in paying tribute to the good work accomplished by the Grange in many districts in connection with the provision of wholesome recreation and amusement for the members of isolated or scattered communities. It is sometimes difficult for people who live in towns to realise precisely what is meant by an almost complete lack of opportunities for social intercourse, and those people are not likely to appreciate at its full value the work which the Grange has done to provide such opportunities. The truest appreciation of the work comes, in fact, from people who have spent their early life upon farms in the open country, and who know from bitter experience the dreariness of the long months of winter passed, by both young and old, practically without social relaxation of any kind. In towns where innumerable associations, societies and clubs exist, one more or one less is a matter of but momentary interest and no particular importance; but it is not so in the country where, apart from the Grange, there is too often no association, no organisation of any kind, which attempts to bring people together for mutual instruction or recreation.

We have already described the general organisation of the Order, but it will be advisable here to examine a little more closely the composition and methods of working of the local units, known as subordinate Granges. The principal officers in a subordinate Grange, — all elected by the vote of the members, men and women being equally eligible for all offices, — are, Master, Overseer, Lecturer, Steward, Secretary and Treasurer. The Grange meets in session probably once a fortnight or even once a week in winter, and once a month in summer when the farmers have less time to spare from their work. Very often a number of neighbouring Granges combine and hold a kind of joint session which as a rule lasts a full day and is a happy combination of business and pleasure. The morning

usually occupied with the secret business of the Order, the principal business (it may be presumed) being the admission of members to the various Degrees." The afternoon session is devoted to listening to addresses by various speakers, but is enlivened by music, singing and recitations, and where circumstances permit there is an evening entertainment in which amateur theatricals figure largely, though dancing, for some reason or other, seems generally to be taboo. Many of the Granges own well-built halls in which their meetings take place, and in many cases these Grange halls are admirably equipped to serve as convenient social centres. The Grange Hall in Wilmington, Mass., for instance, is a building erected in 1911 at a cost of six thousand dollars, and contains a main hall fitted with a gallery and stage for meetings and entertainments, two ante-rooms, men's room, dining-room, kitchen, storeroom and furnace-room. The main hall has seating accommodation for 425 persons and the whole building is lighted, heated and ventilated in such a way as to make it a most comfortable and attractive meeting-place. And Wilmington is by no means an exceptional case: it is just a typical instance of a successful local Grange, and as time goes on the number of Grange halls throughout the country is being steadily increased. It is easy to realise how much the possession of a permanent building designed to serve as headquarters contributes to the success of a local Grange. Almost from time immemorial the meeting place for the men folk in the country has been the village or cross-roads "store," to which the men naturally drifted in the evenings and on wet days in winter when work upon the fields was impossible. The store offered little in the way of accommodation and nothing in the way of recreation or amusement, so that upon the whole it was apt to become the resort of the shiftless and idle members of the community. Moreover, it was only the men who met in the store; the women had no common meeting-place, apart perhaps from the country church or chapel. The schoolhouse was used on occasion for community gatherings, generally of a political character, but the one-room schoolhouse of the type which is common throughout America is neither a commodious nor a cheerful meeting-place, and the conception of the rural school as a social centre is, besides, comparatively new. The Grange has sought uninterruptedly to develop the usefulness of the district school, and we shall have more to say about that part of its work presently.

With a comfortable hall in its own possession a local Grange is able to organise its activities and thus offer some inducement to the younger members of the community to join its ranks.

The fact that women take part in all the work of the Order on an equality with the men, makes of every meeting of the Grange something in the nature of a social function. At full day meetings of county or State Granges it is generally necessary to provide one or even two substantial meals for the members present and the work of catering falls naturally upon the women. A Grange hall usually boasts a well-equipped kitchen, and as the women bring the necessary supplies from their homes there is no difficulty in preparing meals even for a large number of persons. In the summer months the Grange arranges for its meetings to take place as far as possible

out of doors. Where there are a number of subordinate Granges in any district at a convenient driving distance from one another, it is the practice for each Grange in turn to act as host and invite the members of the neighbouring Granges to visit its headquarters. These meetings are usually purely social affairs, such business relating to the Order as may be transacted merely reminding those present that they have a common tie in their membership of a national organisation and serving each one as a plausible reason for spending a pleasant day in the company of friends. There is no need to dwell on the fact that such meetings are helpful in giving the farmers an opportunity to discuss their common problems and in disseminating information and instruction. The meetings are more than justified by the fact that they provide relaxation and give real pleasure, and there would probably be less preoccupation on account of the country-life problem if they were more common than they are.

The social activities of the Grange, moreover, are not confined only to its own meetings or limited to members of the Order. Every country community has its days of public holiday and rejoicing, whether they be national holidays or local festivals, and on such occasions the local Grange is usually active in organising the day's proceedings and providing entertainments. Some of the local festivals are organised with a keen eye to business and are intended to attract public attention to some special product of the district or to the general advantages which it offers. Naturally there is in that case an exhibition of agricultural and other produce, and Grange exhibits are here generally well to the fore.

The Grange, too, has in its time been one of the staunchest supporters of the Agricultural Fair which in many country districts was, and is still, one of the great events of the year. The Grange has set its face resolutely against some of the features which threatened to mar the Fair as a useful institution, and in particular against racing and its inevitable accompaniment, betting. To some extent also the Agricultural Fair has served its purpose and been superseded, and this, together with the fact that it had certain questionable features, probably explains why the Grange is now less enthusiastic in supporting it. This applies particularly to the big State Fairs where the tendency is for vulgar side-shows to become the real attraction. The Grange still promotes and in every way encourages the holding of small local or district agricultural exhibitions which are not open to the same objection.

§ 2. EDUCATIONAL WORK OF THE GRANGE.

The members of the Grange are pledged by the terms of the Declaration of Purposes to advance the cause of education by all just means within their power, and it is a matter of legitimate pride upon the part of the leaders that for nearly fifty years their Order has been prominent in supporting every movement which promised to contribute in any way and in any

agree to the advancement of education. And Grange members have taken a broad view of what constitutes education. They have done much to secure better teaching in rural schools as well as better school buildings; but in addition they have been largely instrumental in securing the development and extension of technical instruction (more particularly in agriculture), in organising courses of lectures, and in establishing local libraries and forming reading circles.

Much good educational work is carried on within the Order itself, as a part of the programme of the regular meetings. One of the most important officers in every Grange is the "Lecturer" whose duty, briefly summarised, is to arrange that something in the way of instruction — and if possible instruction combined with amusement — shall be arranged for each meeting for the members. The Lecturer has a free hand and therefore a wide choice. He usually succeeds in getting a competent person to give a short address on some subject, relating either to technical agriculture or, like "Rural Credit" for instance, intimately connected with agriculture as an industry. Usually the Lecturer himself is a good speaker and a man who keeps himself well-informed as to the progress of agriculture and well posted upon the questions of the day. It is a favourite device of his to organise a debate among the members, who thus acquire ideas and information from one another and, in addition, learn to express their thoughts with some fluency and point, — a matter of no small importance from the point of view of the education of the individual. The founders of the Grange were insistent in urging members to read, and in the early days large numbers of tracts and pamphlets, handbooks, guides and manuals of parliamentary practice were distributed by the National Grange to the subordinate Granges. It will be remembered that the founders were men of considerable educational attainments and much native ability, who naturally saw clearly how much the farmers were handicapped by the meagre education which was then all they usually possessed. There is now much less need for the leaders of the National Grange to insist on the advantages of education. A fair education is much more easily obtainable, and much commoner now, than was the case fifty years ago; the farmers have access to a sufficiently large number of papers, periodicals and books; and the educational activities of the Order are now organised and directed rather by the State Granges, between which, in the matter of initiating schemes for the education and instruction of their members, there is a good deal of healthy rivalry. But the National Grange, nevertheless, continues to hold before the members of the Order the ideal of constant self-improvement. In the present year (1915) the central body has prepared and printed a handbook for the use of the Lecturers of subordinate Granges. The handbook discusses at considerable length the part which the Lecturer is intended to fill in the Grange organisation, and contains a great deal of material (in the way of lists of subjects for discussion, model programmes, lists of books, and suggestions for the formation of a library) intended to assist the Lecturers in carrying out their duties.

The most recent development of the educational work of the Order is of exceptional interest. In 1912, the Massachusetts State Grange set aside

a small fund to be known as the Educational Aid Fund and to be devoted to making loans to young members of the Grange for the purpose of enabling them to continue their education beyond the limits of the ordinary public schools. Loans were made to 14 students in 1912, to 25 in 1913, and to 34 in 1914, making a total of 73 young people helped, the majority of whom without such help would probably never have received anything in the nature of a liberal education. Only a nominal rate of interest is charged upon the loans, and the students helped (who must be well recommended to the trustees of the Fund by the officers of the subordinate Grange to which they belong) are not expected to begin repayment until they have completed their training and are in receipt of a salary. The kind of education which is being promoted by loans from the Educational Aid Fund is by no means all of the same type. Of the students assisted in 1914, eleven are attending Massachusetts Agricultural College, eight are in business colleges, eight are in normal colleges, four are in universities, and two are attending technical high schools. One, even, is attending a school of oratory. The example of Massachusetts has already been followed by Connecticut, Missouri and California.

We have already mentioned that the Grange has consistently lent its support to schemes for providing better teaching and better equipment in rural schools. In the early days the enthusiasm of the members even led them to establish schools of their own, and between 1870 and 1880 Grange schools existed in Alabama, North Carolina, Louisiana and other southern States, and in Michigan. It was during the seventies, too, that the Grange was particularly active in securing the establishment of State universities and agricultural colleges. In more than one state, — in California and Ohio, for example, — the Grange carried out investigations, proved that agricultural education was being unfairly neglected (in some cases funds voted for agricultural education being diverted to other purposes), and was instrumental in bringing about important reforms.

§ 3. GRANGE CO-OPERATIVE ENTERPRISES.

The original Grange Declaration of Purposes, written nearly fifty years ago, contained the following clause: "For our business interest we desire to bring producers and consumers, farmers and manufacturers into the most direct and friendly relations possible. Hence, we must dispense with a surplus of middlemen, not that we are unfriendly to them, but we do not need them. Their surplus and their exactions diminish our profits."

Very early in its history, the Grange tried to bring farmers and manufacturers into the most direct relations possible. Unfortunately the direct relations were not always as friendly as the Grange leaders had hoped. The State Granges appointed purchasing agents to deal directly with the manufacturers; but the agents were often untrained and occasionally dishonest, so that neither the Patrons nor the manufacturers derived the full benefit

the scheme. Another device, employed very often by the Grange in its brief but glorious period of wide popularity, proved even less satisfactory. It was the practice of buying from manufacturers or wholesale dealers on the basis of confidential price-lists in which the quoted prices were appreciably lower than the current prices paid by the public. Inevitably this method of doing business led to endless friction, as the other buyers sooner or later became informed as to the existence of the special price-list.

But the Grange engaged also in much more elaborate forms of co-operative enterprise in the palmy days of its prosperity, and it will be remembered that the widespread failure of its co-operative schemes was the principal cause of the sudden decline of the Order after 1874. Apparently that time disaster made a clean sweep of Grange co-operation and the co-operative enterprises of the Order which exist at the present day are practically all of much more recent origin. One writer (1) states that in 1911 there was still in existence a wholesale firm — the Patrons' Co-operative Corporation of Portland, Maine, — which was founded in 1877, and a small Grange store in North Jay, dating from the 70's. It is quite possible that there may be other interesting survivals of early Grange co-operation, but it is doubtful whether co-operative management has been continuous even in these few cases.

It is difficult matter to establish with any precision when the Grange again took up co-operation as an important part of its programme and began actively to initiate co-operative schemes relating for the most part to the purchase and distribution of farm supplies. The Grange itself has apparently never attempted to take a census of the co-operative enterprises promoted by its own members, and such information relating to them as is obtainable is of the vaguest kind. The explanation is probably to be found in the fact that many of the existing enterprises, while really Grange schemes, are not officially connected with the Order: they are managed by members for the benefit of members, but no Grange organisation has any responsibility in connection with them. This is the lesson which the Grangers have learnt from the history of Grange co-operation between 1870 and 1880.

Some information as to present day co-operation within the Grange is contained in Ford's *Co-operation in New England* and may here be briefly summarised. In 1908, the so-called "trade discount system," under which Grange members were granted special discounts on their purchases, was in vogue in Rhode Island. In that year the Grange leaders had made arrangements with seventeen retail dealers in the State and the Grange members by confining their purchases to these firms were able to save from 5 to 10 per cent. on implements, hardware, paints, oils, boots and shoes and other farm and household supplies.

The same purchasing system was in use in Connecticut for many years, but it proved unsatisfactory and was abandoned about 1904. The system was used in a modified form by some of the Massachusetts Granges. In the

(1) FORD, J.: *Co-operation in New England*, (New York, 1913) at pp 95 and 103.

Granges in question the members deal with certain selected firms, but pay current prices and take a receipt for each payment. These receipts are handed to an agent of the Grange and twice a year the agent presents them to the respective firms and receives a certain rebate agreed upon beforehand. It is the duty of the agent to prevent any abuse of the system upon the part either of the Patrons or of the dealers.

There is really very little which can be described as co-operation in any system of discounts or rebates from ordinary dealers to members of the Grange. In return for a monopoly in supplying a certain clientele the dealer makes some reduction in prices, but the buyers have no interest in and no control of any kind over the business which supplies them.

Grange efforts, however, do not stop at the discount system. Genuine co-operative purchasing associations are fairly common in New England Granges, — especially in Vermont, New Hampshire and Maine, where industrial centres are remote. One such association in Rhode Island, organised by the Middleton Grange and selling fertilisers to non-members as well as members, does a very successful business and is able to effect a saving to members of \$ 5 a ton. In a year of good trade the association buys and distributes 400 tons of fertiliser. Another branch of co-operative enterprise fairly well represented in New England is the co-operative distributive store. The largest Grange store is that of Houlton, Maine, which was founded in 1893, and in 1910 had a membership of 1,018. This store in the year 1909-10 did a total business of \$ 166,857. In 1911, there were at least nine other Grange co-operative stores in Maine. The success of some of the local co-operative associations led the Massachusetts State Grange to embark upon a larger scheme. In October, 1908, the State Grange began in a tentative way to act as the central supply agency of the local Grange. The first order placed was for 465 barrels of flour which were supplied to 47 local Granges at a saving of just over \$ 1.00 per barrel. The second order was for 546 tons of grain, and the third for 30 tons of fertilizer. The total saving to Grange members on these three transactions was \$ 2,200, and this initial success induced the Massachusetts Patrons at the annual meeting of their State Grange to form the "Patrons' Co-operative Association" with an authorised capital of \$25,000 in five-dollar shares. The Association was founded by Grange members for Grange members but it had no legal connection with the Order, which, therefore, incurred no financial liability in connection with the scheme. For a time the Association seemed to be remarkably successful and Connecticut, Vermont, Maine and New Hampshire followed the example of Massachusetts and formed State associations for co-operative purchase. Yet in 1911 the Massachusetts Association was dissolved, the Patrons after failing properly to support it becoming dissatisfied with the service it provided. History seems to have repeated itself quite unnecessarily on this occasion, for the reasons adduced for the failure of the scheme are all very familiar. The promised capital was not paid in full (\$4,000 was subscribed out of \$25,000 and it was found impossible later to get the shareholders to subscribe more), the first choice of manager was unfortunate, and there were irritating delays in filling certain orders. On the dissolution of the Assoc

tion the trade which it had been doing was distributed among the purchasing associations of neighbouring State Granges.

One branch of co-operation, — and the one which, perhaps, has been most successfully developed by the Grange, — has still to be mentioned, namely, co-operative fire insurance. Farmers' co-operative (or mutual) fire insurance associations are numerous in the states of the Mississippi Valley and the Middle West, and the opportunity of obtaining fire insurance at a low cost is in some states one of the strongest attractions which the Grange has to offer. Grange fire insurance has been very successful in Kansas where the Patrons' Fire and Tornado Association does business throughout the whole of the State. The Association was founded in 1889 and so far has proved continuously and increasingly successful. In 1907, the risks covered amounted to \$ 6,000,000. Five years later, in 1912, the amount had increased to \$ 16,000,000. During the year 1911, the association paid 180 claims amounting in all to \$ 30,000. In 1912, business always increasing, the Association built for itself new office buildings in the town of Olathe.

In the same town are situated the offices of the Patrons' Bank of Kansas founded as far back as 1883 with an authorised capital of \$ 75,000 of which \$ 37,500 was paid up. A later banking law in Kansas required that the capital should be paid up in full, and the Bank was reorganised with a capital of \$ 50,000. As originally constituted, it was strictly co-operative, but the requirements of the new banking law made it necessary to eliminate some of the co-operative features. Even so, however, voting is still democratic, each shareholder having one vote only upon any question. No shareholder may hold more than ten shares, and only Grange members may be shareholders. The Bank, however does not limit itself to doing business with Grange members but does an ordinary banking business with the general public, and of the Bank's depositors only about 50 per cent. are members of the Grange.

The Patrons' Bank of Kansas seems to be the only one of its kind, and the Patrons themselves do not claim that it is, in the strict sense of the term, a co-operative credit institution; but it is at least a striking example of what can be accomplished by organised effort, and it is our object here to show how largely the Grange contributes to the effective organisation of American farmers.

§ 4. THE EXTENSION OF THE ORDER.

It has been noted in our first chapter how the year 1874 marks the culminating point in the progress of the Grange in numbers and in prosperity. At the end of that year there were well over twenty-one thousand Granges in the United States and the number of members was not less than 50,000. By 1880, the number of Granges had fallen to about four thousand and the membership was probably not more than 150,000. Those

who remained faithful to the Order, however, were men and women of the right stamp, who believed firmly in the Grange ideals of mutual help, mutual instruction and organised effort for the betterment of rural life. The Grange after 1880 took up, one by one, its real tasks, and slowly but steadily it won its way back into public notice and esteem. The number of members increased slowly, but the increase was sound. For many years it was rather that the members sought the Grange than that the Grange sought the members. There has been, naturally, ebb and flow in its fortunes; it has at times attracted a good deal of public attention by its support of certain measures, or by its opposition to others, while at times it has remained for considerable periods in comparative obscurity. Again, the personal element has much to do with the activity of the Order, and the question whether the Grange shall languish or shall progress in a particular State depends very largely upon the character and organising ability of the State Master who happens to be in office. For many years after 1880 the National Grange made no special effort to extend the Order, although the higher officers showed themselves as a rule active in stimulating interest in Grange affairs among the members themselves. It was not, indeed, until 1910 that the National Grange, considering the moment opportune, decided to adopt a more active policy with regard to propaganda. At the annual sessions of the National Grange, held in that year at Atlantic City, New Jersey, it was decided to devote, out of the general funds, amounts not exceeding in any single case \$2,000, for the purpose of extending the Order in each State entitled to representation in the annual session, and a sum not exceeding \$5,000 for the purpose of extending the Order in States not entitled to representation, provided, however, that the total expenditure should not be so great as to reduce the permanent investment of the National Grange below \$100,000. The same provision for extension work was made at succeeding sessions of the National Grange and the amounts expended in the four years 1911 to 1914 were \$16,900, \$17,000, \$14,500 and \$12,000, respectively. In 1913 and 1914 the amount spent on extension work had to be curtailed in order that the general fund of the Order might not be reduced below the established limit of \$100,000. The special effort made to extend the Order met with considerable success, and between 1911 and 1914 many new Granges were organised. Between October 1st, 1913, and September 30th, 1914, the number of Granges organised was 490, the highest number organised in any one year since 1874. In the same year (1913-14) the annual dues, upon the basis of membership, paid into the National Grange by the various States, amounted to \$25,764. It has already been mentioned that these dues amounted, in 1875, to more than forty-three thousand dollars, and had fallen, in 1880, to just over six thousand. Unfortunately no comparison as to number of members can be drawn from these figures, as the annual dues appear to have been levied at different rates at various times.

It is difficult to obtain anything like complete and accurate statistics of Grange membership. In *Co-operation in New England*, the number of members in the New England States in 1911 is given as follows: Maine

1,000, New Hampshire 30,000, Vermont 20,000, Massachusetts 27,000, Connecticut 12,000, Rhode Island 2,500. From the *Journal of Proceedings of the Forty-sixth Annual Session of the National Grange* (Spokane, Washington, 1912) we learn the membership of the Grange in four of the States in 1912: Iowa 3,722, Kansas 10,229, Ohio 42,179, Oregon 10,700. In the *National Grange Monthly* of August, 1914, it is stated that, in 1914, New York had a membership of 110,000; Philadelphia of 70,000 and Michigan of 50,000. According to the same authority the total membership of the Order in 1914 was "something approaching a million and a half," an estimate which (we may take it) errs rather on the side of generosity. Whatever the real figures as to membership may be, — and they are probably considerably lower than the million and a half of the *National Grange Monthly*, — the fact remains that the Grange is still the largest purely agricultural organisation in the United States, if not, indeed, in any country in the world.

JAPAN.

TWO GREAT AGRICULTURAL SOCIETIES.

By TAKEO ONO of the Imperial Agricultural Association of Japan.

There are two great agricultural organisations in Japan, one — the Agricultural Society of Japan (*Dai-Nippon Nokai*) — a private society, the other — the Imperial Agricultural Association (*Teikoku Nokai*) — a public institution.

The former is organized by over ten thousand members, who are interested in agriculture, while the latter is established under the Law on Agricultural Societies and is composed of 46 prefectural agricultural societies. It must be remembered in this connection that each prefectural agricultural society is composed of district agricultural societies, that each district agricultural society is composed of town and village agricultural societies, and that each town and village agricultural society is organized by local farmers. Thus there are four grades in the public agricultural institute of Japan.

I shall give a brief historical sketch of the development, organization and working of both organizations.

§ I. THE AGRICULTURAL SOCIETY OF JAPAN.

(*Dai-Nippon Nokai*).

The Agricultural Society of Japan came into existence in 1881, but the project for organizing it had been under contemplation for years before. The late Marquis Okubo, then Minister of Home Affairs, took a deep interest in agriculture. On the occasion of his visit to Europe and America he made many useful investigations into productive industries, especially into western agriculture. Soon after his return from abroad, he established the Mita Seed Farm, and later managed to open several markets for agricultural produce with a view to supplying good seed and facilitating dealings in agricultural produce. The Marquis, not satisfied with these few institutions intended to establish a large agricultural society. His plan, however, was nipped in the bud owing to his untimely death in 1878. But his friends and followers endeavoured to realize his cherished desire. As

result, they established in the spring of next year the Tokyo Farmers' Society and called monthly meetings to discuss the development of agriculture.

Availing of the occasion of the Second National Exposition which was held in Tokyo in 1881, the Government summoned several hundred leading farmers from every part of the country. These farmers, assembled in Tokyo in response to the invitation of the Government, held their meeting at the Kōtō-ji Temple at Asakusa and unanimously passed a resolution that the Tokyo Farmers' Society should be amalgamated to the *Toyo-Nokai* (Oriental Agricultural Society) a farmers' society having its office in the Shiosa Imperial Pasture, and that the Agricultural Society of Japan (*Dai-nyōpon Nokai*) should be the name of the newly created society. The first private agricultural society came into existence for the first time in this way. In the following year the Imperial Household Department allotted a sum of one thousand yen toward the funds of the society. The Department of Agriculture and Commerce, on the other hand, made occasional subsidies in order to assist the various works planned by the society.

The most important work conducted by the Society must be said to be the Tokyo Agricultural University. This institution was established in 1897 under the name of Tokyo Agricultural School, and subsequently, in 1911, it was converted into a University. More than one thousand graduates have been turned out from the university, while about seven hundred students are now studying there.

Under the Imperial encouragement given in the form of money grants and the Government subsidies, the Agricultural Society of Japan, ever since its establishment, has been making a great contribution to the development of agriculture.

The Society at present is acting under the patronage of H. H. Prince Arima as its Honorary President and Marquis Y. Matsudaira as its President, with Viscount Y. Mishima and Dr. Y. Yokoi as its Vice-Presidents. The Technical Committee consists exclusively of men well versed in agricultural science.

The members of the Society are classified into (1) Honorary, (2) Special, (3) Ordinary, (4) Subscribing (*Sansei Kwain*).

To describe the membership more definitely:

Honorary Advisors are chosen by the Standing Board of Trustees from among those who are well qualified and have rendered special services to the Society.

Honorary Members are nominated by the Honorary President from among those who have special qualifications or who have rendered services to agriculture or else to the Society.

Special Members are those who have the right of voting and who pay an annual fee of yen 2.40.

Ordinary Members are those who pay a fee of Yen 1.80 a year, while Subscribing Members, are those who, once for all, contribute yen 100 or over.

Neither Ordinary nor Subscribing members have the right of voting.

Besides the management of the, Tokyo Agricultural University, which I have mentioned above, the Society is carrying out the following programme:

(1) Publishing the monthly *Report of the Agricultural Society of Japan*.

(2) Circulating pamphlets on agriculture;

(3) Making researches on rural economy and answering to the questions put by the members;

(4) Holding meetings for the purpose of discussing agricultural education;

(5) Delivering lectures for military men;

(6) Collecting miscellaneous information with regard to agriculture through correspondents appointed by the Society;

(7) Giving the Society's medals, to those who have rendered meritorious services to the development of agriculture;

(8) Organising itinerant lectureships;

(9) Organising travelling exhibitions;

(10) Holding an annual exhibition of farm products in Tokyo;

(11) Supplying good seeds and young plants to farmers;

(12) Showing useful books and agricultural specimens in the office of the Society;

(13) Analysing soil and fertilizers in compliance with the application presented by the members of the Society;

(14) Criticising new methods in agriculture;

(15) Examining newly invented agricultural implements and machines

§ 2. THE IMPERIAL AGRICULTURAL ASSOCIATION OF JAPAN.

(*Teikoku Nokai*).

The Imperial Agricultural Association of Japan was established in 1910 under the Law on Agricultural Societies. Prior to the establishment of this association, there was an agricultural society called *Zenkoku Noji-Kai* (Agricultural Society of the Japanese Empire), which had been carrying out various works in the common interest of farmers. But this society being entirely private, and no control being placed upon it by law, could devote itself to the work more freely than is now possible. The principal undertaking of the society was engaging in political movements in the interest of agriculturists and publishing a monthly journal. One who rendered distinguished services in connection with the establishment and development of the society was Mr. Maeda, now member of the House of Peers. We have another nobleman who has rendered great service to this society and later for the Imperial Agricultural Association of Japan, in the person of Viscount H. Kano, formerly Lord of Ishinomiya, clan of Kadzusa Province. The Imperial Agricultural Association of Japan owes its present prosperity and solidity to these two public spirited men. About 20 years ago Mr. Maeda made

lecturing tours throughout the country encouraging and persuading farmers to combine and establish a great agricultural society. From that time onward Japanese farmers have gradually become interested and have begun to realise their own importance to the nation. In 1884, the Central Agricultural Society was established at the instances of Mr. Maeda, and started various works. For a few years after the establishment of this society, all the works now conducted by the Sericultural Association of Japan and the Central Organisation of Co-operative Societies, were under the management of that society. The Central Agricultural Society held, as a rule, a mass meeting every year in Tokyo and called representatives from each prefectural district and submitted various questions to discussion. Besides this annual meeting, the society held local farmers' meetings in various parts of the country and discussed miscellaneous questions. It is not too much to say that those agrarian movements were practically under leadership of Mr. Maeda.

The Law on Agricultural Societies was promulgated in 1889, and prefectural district and town and village agricultural societies were established according to this law. But there was not yet any regulation in this law providing for a central organ. Therefore, the Central Agricultural Society, though it was not a public institution, had been making the part of a central organ with the support of the prefectural agricultural societies.

In 1910, however, the Government revised the Law on Agricultural Societies creating the *Teikoku Nokai* (Imperial Agricultural Association) in the first section of the law, and having duly obtained the approval of the Imperial Diet, the public central agricultural association came into being that year. Upon the establishment of the *Teikoku Nokai*, the *Zenkoku Nojikai* was dissolved after many years services for the welfare of the Japanese farmers.

I have already mentioned at the beginning of this article that the Imperial Agricultural Association is composed of 46 prefectural agricultural societies. The chief functions of the Association as laid down in its statute are:

- (1) To answer any questions put by the Government ;
- (2) To bring forward representations to the Government for the benefit of agriculturists ;
- (3) To make researches into matters concerning rural economy and agricultural politics ;
- (4) To publish monthly the *Bulletin of the Imperial Agricultural Association*.

The official Board of the Association consists of a President, Vice-President, fifteen Councillors and two Secretaries. The present President is Marquis Y. Matsudaira and the Vice-President is Dr. K. Kuwada, member of the House of Peers. The members of the Association are classified into two kinds, ordinary members and special members. Ordinary representatives are to be elected every three years from each prefectural district, while special representatives are to be appointed every three years by the Minister of Agriculture and Commerce. Besides these, the Association

can recommend honorary members and advisers from those who are well versed in agricultural economy and politics. The present honorary members are Marquis Y. Matsudaira, Viscount Oura, Minister of Home Affairs, Viscount H. Kano, ex president of the Association, and Mr. Maeda, member of the House of Peers. The present advisers are Mr. C. Shimocka, Vice Minister of Home Affairs and Mr. T. Tokonami, ex-president of the Imperial Railway Board.

The annual income of the Association consists of the Government grants and of the levy imposed upon prefectural agricultural societies. The budget of the Association is submitted to the discussion of the annual conference. The annual conference takes up for discussion not only the question of budget, but also bills proposed either by the representatives or by the official board of the Association.

One of the most important resolutions passed at the last session of the annual conference, held for three days beginning on the 7th October, 1914, was addressed to Government expressing the desire of the association for an adjustment of the price of rice with a view to relieving the farmers. This resolution aroused criticism everywhere in political circles and became one of the burning questions in the Imperial Diet. Some members of the House of Representatives put questions regarding the regulation of the price of rice in the Lower House, while some others brought forward representations on the same question, without regard to the party to which they belonged. Listening to these questions and representations, the Government at last issued an Imperial Ordinance authorizing the purchase and sale of rice on Government account with the object of regulating the price. This measure proved very effective and the price rose three *yen* per *koku* in a short period of time. The farmers who had long been suffering from the low price of rice, were relieved by this measure from further difficulty. Thus the farmers' desire for regulating the price of rice, which is the staple food of the Japanese, was realised, to the great relief not only of them but also of merchants and manufacturers throughout the country.

RUSSIA.

PROGRESS OF CO-OPERATION IN FINLAND BETWEEN 1909 AND 1915 AND THE PRESENT SITUATION.

(Continued).

§ 5. CO-OPERATIVE SOCIETIES FOR PRODUCTION AND SALE.

In the statistical returns of the "Pellervo" the following eight categories of Finnish co-operative societies were considered as coming under this head: (1) co-operative dairies, or rather butter making societies, (2) co-operative societies for the sale of milk, (3) co-operative societies for sale of livestock and meat, (4) co-operative societies for poultry improvement and the sale of eggs, (5) co-operative societies for the sale of grain and co-operative mills, (6) co-operative societies for cutting wood in forests and co-operative saw-mills, (7) co-operative societies for fishing and the sale of fish, (8) miscellaneous co-operative societies for production and sale.

(a) *Co-operative Dairies, or rather Butter Making Societies.*

As we have seen, in the Finnish statistical returns a sharp distinction is made between "co-operative dairies" and co-operative societies for the sale of milk. The reason for this distinction is the great importance the production of butter for export, especially to the English market, has assumed, now exceeding 13,000,000 kg. per ann., and representing a value of more than 40,000,000 marks. Owing to the progress made by this industry most of the co-operative dairies concentrate their attention on the production of butter for exportation, to the exclusion of everything else. Only a few, in the neighbourhood of large towns, engage in the local sale of dairy produce, and that most frequently as an auxiliary industry. Hence it is necessary to distinguish between "butter factories", for production for the foreign market, and associations for local supply.

In consequence of the comparatively small population scattered over the whole area of the country, Finnish co-operative "butter factories" have

very few members and only a small stock of cattle. Forty per cent have less than sixty members, and only 20 % have more than 1,000 cows. The general average is 105.4 members with 689.2 cows per association, while in Denmark, for example, the figures corresponding are 156 members and 956 cows.

In the Finnish co-operative butter making societies, the foundation of which is generally facilitated by the State, which grants them loans on favourable terms up to the amount of 50 % of the expense of their first establishment, the value of the shares is on an average 20 marks. The supplementary personal liability of each member varies from 50 to 100 mks. per share, but in many societies there is absolutely no limit.

The general progress and present situation of these associations is seen in the following table:

TABLE VIII. — *Development of Co-operative Butter Making Societies in Finland, between 1902 and 1913.*

[illegible]

The Finnish co-operative butter making societies generally engage also in various secondary industries. Thus we know that many of them undertake the collective purchase of agricultural machinery and produce for their members. We have just seen that others, in the neighbourhood of large towns, engage in retail sale of milk and cream. Others again have installed mills and saw-mills. Finally poultry improvement and even more, pig improvement is becoming more and more general among them.

Most of them sell their produce through the medium of the "Valio Central Co-operative Society for the Export of Butter," which we shall consider later. The butter factories of the country have united in *Provincial Federations* and it has been decided that their delegates shall meet annually from 1914 in a *National Congress*.

(b) *Co-operative Societies for the Sale of Milk.*

As we have just mentioned, the societies of this character are chiefly to be found in the neighbourhood of the larger cities of the country, Helsingfors, Åbo, Viborg, Tammerfors, Vasa etc., and along the Russian frontier, for the supply of Petrograd. They vary considerably in their organisation and many of them do not register in the commercial register.

Owing to this and the fact that it is only too often that their work is not to be distinguished from that of the butter factories for local sale and of the co-operative distributive societies, it is at present impossible to estimate their importance with any accuracy.

(c) *Co-operative Societies for the Sale of Livestock and Meat.*

The first Finnish society of this kind was founded in 1909. It extended its action throughout the archipelago of the Åland islands, halfway between Finland and Sweden, with the object of selling its members' cattle and meat obtained from them at Stockholm. Although founded with very little capital, its business was so profitable, that at the end of the first year, a second co-operative society of the same character was founded at Knop to supply the Petrograd market. In this case also the results were excellent and a third society was formed at Tammerfors in 1912, with a view to the supply of that town and the capital, Helsingfors. In 1913 a fourth was founded in the Southwest of Finland for exportation to Sweden and Germany. Finally in 1914, after the "Pellervo", in view of the success of the first attempts, had decided to support and encourage this new class of association, 4 new societies of this character arose, bringing the total number of those now existing up to eight.

The great European war having meanwhile broken out, these eight societies formed a "Union" among themselves and so were able to make profitable contracts with the Russian administration for the supply of meat to the army.

No statistics have yet been published of the work of this class of society.

(d) *Co-operative Societies for Poultry, Improvement and the Sale of Eggs.*

A few years ago scientific poultry improvement was so to say unknown in Finland, and eggs (above all from Russia) were imported to the amount of about 2,000,000 marks a year. In several directions efforts were made to improve the situation, but it is only since the "Valio," the Central Co-operative Society for the Export of Butter, engaged a special expert for the business that any results, however unsatisfactory, could be obtained.

At present 33 co-operative societies for the sale of eggs are registered in the commercial register, but besides the associations officially constituted, there are even more that, although they have not thought necessary to obtain official authorisation, none the less do a fairly active business. All the associations of this class are still comparatively of very little importance in regard to the amount of their business. The majority hardly sell 20,000 eggs a year. Some, however, in 1914, sold 50,000, 100,000 and even 150,000.

In this case also, owing above all to the very recent introduction of this class of co-operative business in Finland, there are no statistics available.

(e) *Co-operative Societies for the Sale of Wheat and Co-operative Mills.*

For several years many co-operative credit societies have been engaged in the co-operative sale of wheat, as simple intermediaries between the producers, that is to say their members, on the one hand and the purchasers on the other. Special loans have even been granted by the Central Credit Institute of the Finland Rural Co-operative Societies with the object of encouraging and developing this kind of business. Some co-operative dairies have followed the example of the credit societies and the number of co-operative distributive societies engaged in the sale of wheat has been for some time increasing from day to day. As unhappily the spirit of speculation is tending more and more to exclude true co-operation from this business, the "Pellervo" is now attempting to promote the foundation of absolutely independent co-operative societies, exclusively for the sale of wheat. Some have already been founded, but it is too early to pronounce an opinion in regard to the results obtained.

In regard to co-operative mills, 64 are registered in the commercial register, 36 being established as auxiliary industries by an equal number of butter factories; 18 are associated with co-operative saw mills and, finally, 10 have been founded as entirely independent co-operative societies. Association under various forms for grinding corn being traditional in Finland for centuries, there is no doubt that these 64 officially recognised mills are but a minority of those that actually exist.

Let us add that the results given by the 10 officially recognised co-operative mills have been very little satisfactory and the "Pellervo" is now studying how to reorganize this kind of co-operative business.

(f) *Co-operative Saw Mills.*

This kind of association only began to develop in Finland after the institution in 1913, by the "Pellervo," of a special office, under the direction of an expert, to give the farmers useful advice for the proper cutting of their wood. At present, according to the official registers there are 38 co-operative saw mills in the country, 18 associated with the same number of co-operative flour mills, 11 with as many co-operative butter factories and, finally, 9, which are independent associations. No statistics have as yet been published of the work of these 38 saw mills. The results of their working that are known are, however, very encouraging.

(g) *Co-operative Societies for Fishing and the Sale of Fish.*

The societies founded by professional fishermen or by farmers on the sea coast or on the shores of the rivers and lakes, all abounding in fish, with a view to its sale, are now very numerous. Unfortunately most of them have not considered it necessary to obtain legal recognition and only one, the "Fishermen's Co-operative Society of the Archipelago of Helsingfors", founded in 1907, has furnished regular statistical information in regard to its work. Violently opposed at its start by the merchants, this association all the same triumphed over its competitors and attained the most satisfactory results. As far as can be judged from the fragmentary information collected in regard to other co-operative societies of the same class, their development proceeds on absolutely similar lines. The statistics we give below of the work of the Helsingfors society may therefore give an approximate idea of the economic and social importance of this class of association.

TABLE IX. — *Work of the Co-operative Society of the Fishermen of the Helsingfors Archipelago.*

Year	Number of Members	Annual Sales (in Marks)	Profit (+) or Loss (-) (in Marks)
1907	91	—	— 1,140
1908	134	73,421	— 5,700
1909	150	71,236	— 2,251
1910	154	115,849	+ 600
1911	157	156,488	+ 5,214
1912	161	197,639	+ 5,092
1913	165	244,607	+ 9,861
1914	160	255,548	+ 1,554

b) *various Non-Agricultural Co-operative Societies for Production and Sale.*

Apart from the kinds of association we have just considered, no other kind of *Agricultural* Co-operation for production and sale has yet been tried in Finland. But outside the field of agriculture very many co-operative societies for production and sale have been founded, above all among workmen engaged in industry and transport. The commercial register reports 45, of which 17 were founded by dock labourers, 6 by stone quarrymen, 4 by ships' painters, 4 by workers in metal, 3 by joiners, 2 by locksmiths, 2 by saddlers, 1 by workers in felt.

Unfortunately, the results obtained by these associations have been generally very unsatisfactory. Either the societies belonging to this group have been unsuccessful in business, after which they have dissolved, or their business has succeeded and in that case most of them have gradually been transformed into ordinary profit seeking undertakings. The cause of the unsuccess of non-agricultural co-operative production and sale is almost always either the want of competent officials, or dissensions among the members who are not sufficiently instructed in the general principles of co-operation. The absence is felt also of any organisation like that of the "Pellervo" for the agricultural societies.

Since the rules of the "Pellervo" absolutely forbid it to extend its action beyond the field of strictly agricultural co-operation, it is to be hoped that one day or another a similar institution will be founded for the benefit of non-agricultural Finnish co-operation.

§ 6. CO-OPERATIVE CREDIT.

The considerable difference we have observed between the progress made by *agricultural* and non-agricultural co-operation in regard to production and sale we shall find again and even in a more marked degree when we turn our attention to co-operative credit.

In regard to *agricultural* co-operative credit, quite recently, in the number of this bulletin for February of this year, we published a study on the subject too complete for it to be necessary for us to deal with it again in detail now. We shall therefore only give a general table showing the development of this kind of co-operation from the start up to the present day, and its situation at present, which will serve on the one hand, to complete the earlier information published in our article of February, and, on the other, as a means of comparing the progress made by *agricultural* and non-agricultural co-operative credit in Finland.

TABLE X. — Progress made by the Agricultural Credit Banks in Finland from 1903 to 1914.

Year	Number of Banks		Total Number of Members	Net Amount of Total Assets of Members in Marks	Capital of the Agricultural Banks		Loans granted by the Agricultural Banks on December 31st.		General Turnover of the Banks
	Registered in the Commercial Register	In Relations with the Central Credit Institute			Total in Marks	Percentage of Total Debt	Total in Marks	Average per Member in Marks	
1903	24	10	253	1,918,000	2,000	3.5	45,000	176	200,000
1904	87	69	1,724	11,861,000	17,000	5.8	273,000	138	800,000
1905	140	119	3,662	18,794,000	49,000	7.0	648,000	177	1,500,000
1906	176	148	4,930	23,885,000	84,000	8.1	968,000	196	1,900,000
1907	240	210	8,231	35,942,000	142,000	7.9	1,786,000	217	3,700,000
1908	308	268	11,745	52,780,000	242,000	7.6	3,010,000	236	5,300,000
1909	385	340	15,688	71,240,000	369,000	8.9	3,864,000	246	6,200,000
1910	418	374	17,404	83,791,000	491,000	10.9	4,197,000	241	6,800,000
1911	445	398	18,546	95,442,000	640,000	13.1	4,363,000	235	7,300,000
1912	453	399	19,390	110,666,000	713,000	14.2	4,695,000	242	8,000,000
1913	478	416	19,802	128,023,000	824,000	14.2	5,040,000	272	8,500,000

In comparison with this remarkable and continual progress, the development of *non-agricultural* co-operation in Finland is incontestably very unimportant.

In fact it is only represented in the country by *two* associations of Schulze-Delitzsch type, one founded at Kurikka in 1903 and the other at S. Michael two years later. The former with difficulty continues to exist; the latter has 46 members and a share capital of 5,900 mks. and as granted loans for a total amount of 40,000 marks.

If to these two banks we add that founded in 1902 by the total abstinence students of the University (55 members, 10,000 marks capital and 5,000 mks. advanced as loans), that of the railwaymen, founded in 1908 (60 members, 15,000 marks capital and loans to the amount of 22,000 marks), that of the employees of the Co-operative Distributive Societies' Federation, founded in 1913, and finally that, quite recently founded (1914), for various classes of small employees, clerks and small manufacturers atelsingfors, we have the complete list of the *non-agricultural* co-operative edit societies of Finland.

If it were necessary to show all the importance of the work accomplished by the "Pellervo" and the need there is of founding a similar institution to assist non-agricultural co-operation in Finland, what better argument could be desired than this striking comparison?

§ 7. MISCELLANEOUS CO-OPERATIVE SOCIETIES.

Under this head, the Finnish statistical returns at present include:

- (1) Co-operative societies for collective purchase and use of machine threshers, (2) Co-operative societies for working peat moss bogs, (3) Co-operative societies for the installation of telephonic communication and (4) Co-operative societies for the purchase of homesteads and building dwelling houses.

(a) *Co-operative Societies for Purchase and Use of Machine Threshers.*

As indicated in their title, these associations were originally founded for the collective purchase and use of machine threshers and the necessary locomotive engines. The number of members hardly exceeds 20. The subscriptions vary from 2 to 5 mks. per hl. of seeds and the personal liability of members varies from ten to thirty marks. The thresher is generally paid for in five or six years and then the societies use their money for the purchase of other agricultural machines and engines. At the present date they almost all have the most perfect equipment and the official title of co-operative societies for purchase and use of machine threshers should be substituted by that of co-operative societies for purchase and use of agricultural machinery in general.

The associations of this class in Finland are very many. It is true that only 235 are registered in the commercial register, but that is only a small proportion of those actually existing. The statistical tables of the "Pellervo" show *hundreds* that have never been officially registered.

Taken all together, these societies are very prosperous.

(b) *Co-operative Societies for Working Peat Moss Bogs.*

The employment of peat moss litter in stables and cattle stalls is of the greatest importance for the progress of agriculture as it is the best means of preserving dung. As Finland is very rich in peat moss bogs, it is natural that their exploitation for the benefit of agriculture has developed very considerably. The co-operative societies have had a great share in this development. They buy a bog or rent it with right to dig the peat, and build the sheds required for drying it, obtain the equipment indispensable and then sell the peat to their members.

Some of them are very large associations, with plant of the value of 50,000 mks. or 100,000 mks. and export the peat. Experience having, however, shown that a large number of small businesses scattered over the country could provide it with peat cheaper than a single large one (on account of the high cost of transport), the "Pellervo" is now endeavouring above all to encourage the constitution of small local co-operative societies.

At the beginning of the present year there were 127 societies for working peat moss bogs registered in the commercial register. As a matter of fact, the real number of these associations is considerably higher.

(c) *Co-operative Societies for the Installation of Telephones.*

In a country with so scattered a population as Finland, the possibility of communication by telephone has an importance for the farmer that their fellows in Central Europe cannot even imagine. In winter above all, when snow encumbers the few country roads, it is only by means of the telephone the Finnish farmers can give their orders, learn the current prices, call the doctor or the veterinary surgeon, ask help in case of fire etc. Under these circumstances it will be understood that Finland is one of the countries where telephones are most largely used. Where they have not yet been installed by the large companies, the farmers have formed special co-operative societies, for the purchase of the plant, the fixing of the wires and their connection with the nearest central stations of the great inter-urban system.

Although this class of association is quite a new thing, there are already no less than 58 co-operative societies for the purpose officially recognised and their numbers increase from day to day. The economic results given by these societies have everywhere been most satisfactory.

(d) *Co-operative Societies for the Constitution of Homesteads and for Building Houses.*

In spite of the classification adopted in the Finnish statistical returns have here two quite different sorts of association, one, strictly rural, aiming at the constitution of small agricultural holdings for its members, the other, almost exclusively urban, engaged in the building of workmen's houses. Both also are as yet of quite recent introduction into Finland.

The co-operative societies for the constitution of homesteads endeavour to buy large estates cheap and divide and distribute them among their members. The commercial register reports 56 of these societies at the present date, but many of them have not yet been able to realise their object owing to lack of capital. On January 1st. of the present year, thirteen of them, which had succeeded in obtaining Government loans to the amount of 700,000 marks, had bought altogether 6,000 ha., and distributed them amongst 267 members as homesteads.

At the same date there were 43 co-operative house building societies. Several of them have a very solid position, with share capital of between 100,000 mks. and 3,500 mks. and the personal liability of members generally limited to the amount of their shares. Some of these associations have erected dwelling houses of a value of from 100,000 mks. to 500,000 mks., containing from 60 to 150 living rooms. This has been rendered possible by loans obtained either from the Finnish Urban Mortgage Bank or the life insurance companies.

Unhappily these are only isolated and exceptional cases. The co-operative building societies with shares of smaller amount seem to have had great difficulty in collecting the sums they require for realising their objects and, without a powerful central organisation on the model of the "Pellervo", it is to be feared their further progress can only be very slow and difficult.

§ 8. CENTRAL INSTITUTIONS, OF FINNISH CO-OPERATIVE ASSOCIATIONS.

Owing to the constant recommendation and energetic assistance of the "Pellervo" and encouragement from the State, the movement in favour of centralisation among the Finnish co-operative societies has become very pronounced. This movement is directed on the one hand towards federation of the various classes of co-operative societies; in provincial unions in the first place, and afterwards into national unions and on the other towards the foundation of central economic institutions for the promotion of the united efforts of the local associations.

If we take into consideration that the principal object of the non-economic federation of the local co-operative societies is to give them unity of aim, to direct them, inspect them, and watch over the general interests

of co-operation and to work to extend the principles and practice of co-operation we shall at once see that such a federation, not strictly economic, of co-operative societies is less necessary in Finland than elsewhere, at least as far as agricultural co-operation is concerned.

In fact, the various objects pursued in this respect by federal unions are no other than those the "Pellervo," that remarkable society which created agricultural co-operation in Finland and to which the greater part of its success is due, has pursued from its foundation with the fortunate results of which we are aware. For agricultural co-operation the "Pellervo" fulfils all the non-economic functions the provincial or national unions of the various classes of association could fulfil.

Under these circumstances, it is natural that federation in non-economic unions has made very little progress in Finland. In fact, two groups of co-operative societies alone, the distributive societies and the butter factories have as yet formed provincial unions, principally intended for a more detailed study of the numerous technical questions involved in this class of association than the "Pellervo" is in a position to undertake. Delegates of these two classes of provincial federation have been meeting since 1914 in national congresses, the transformation of which later into strongly organised federations is under discussion.

In the economic field, the question of federation presents itself under quite a different aspect.

Founded for the diffusion of co-operative principles generally and to encourage in every way the foundation of agricultural co-operative societies, the "Pellervo" has, on principle and systematically, always refused to occupy itself directly with the transactions and economic operations of the societies born of its initiative. It has quite rightly considered that it is infinitely better to found special central institutes for the purpose and has concentrated all its efforts on the attainment of this end, in which it has fully succeeded.

At present there are in Finland five central economic institutions for agricultural co-operation, namely:

- (1) The Central Credit Institute of the Rural Co-operative Banks, founded in 1903,
- (2) The Union of Co-operative Distributive Societies, founded in 1904,
- (3) The Central Co-operative Agricultural Purchase Society, "Läbor," constituted in 1906,
- (4) The Central Co-operative Agricultural Purchase Society, "Hankkija," founded in 1905,
- (5) The Central Co-operative Society for the Export of Butter, "Valio," founded in 1905.

Before giving an outline of the work of these institutions, we shall give in the following table some general statistics of the Finnish Central Co-operative Societies.

TABLE XI. — *Federations of Co-operative Societies in Finland between 1903 and 1915.*

Year	Number of Unions of Co-operative Societies	Number of Societies Affiliated	Capital in Marks	Capital not paid up by Members in Marks	Sales and Loans in Marks	Total Annual Profit in Marks	Branches and Store-houses	Number of Employees
1903	1	10	303,000	—	42,000	800	—	2
1904	1	69	307,500	—	264,000	10,000	—	3
1905	3	213	350,000	111,100	2,327,000	47,000	1	29
1906	5	413	351,700	117,900	15,540,000	236,000	4	64
1907	5	584	617,000	878,400	26,200,000	384,000	7	109
1908	5	741	886,500	1,038,200	34,303,000	262,600	12	141
1909	5	895	1,058,000	1,200,400	35,122,000	291,200	16	154
1910	5	946	1,236,400	1,255,400	27,984,000	383,900	22	159
1911	5	1,028	1,501,500	1,398,000	43,490,000	778,500	29	204
1912	5	1,113	1,953,600	1,610,800	50,930,000	651,600	35	256
1913	5	1,284	2,368,200	1,766,400	59,578,000	576,600	36	296
1914	5	1,536	2,738,800	2,278,400	65,648,000	1,359,600	41	346

(a) *Central Institute of the Rural Co-operative Banks in Finland.*

As in a very recent number of this Bulletin we dealt with this Institute of which we gave ample details, we shall now simply give the following table showing the progress made by it since its foundation.

TABLE XII. — *Progress made by the Central Institute of the Rural Co-operative Banks of Finland from 1903 to 1915.*

Year	Number of Societies Affiliated	Staff	Capital in Marks	Credit Opened to Local Banks in Marks	Credit Received by the Local Banks up to 31st. December in Marks	Annual Profit in Marks
1903	10	2	303,000	79,000	42,090	8,000
1904	69	3	307,000	429,000	264,000	10,000
1905	119	3	315,000	834,000	623,000	20,000
1906	148	4	323,000	1,225,000	948,000	22,000
1907	210	4	333,000	2,068,000	1,706,000	23,000
1908	268	4	342,000	3,257,000	2,878,000	25,000
1909	340	6	366,000	4,000,000	3,662,000	24,000
1910	374	6	391,000	4,388,000	3,867,000	36,000
1911	398	7	416,000	4,738,000	3,932,000	24,000
1912	399	8	426,000	4,990,000	4,113,000	24,000
1913	416	9	388,000	5,553,000	4,711,000	36,000
1914	441	10	429,800	6,319,000	5,342,000	41,000

(b) *Union of Co-operative Distributive Societies.*

Founded in 1904 by 12 co-operative distributive societies, this Union had at the start to contend against serious difficulties. It only accepts to day as members such societies as are firmly organised in an economic sense. The shares are 100 marks each and the affiliated societies must subscribe one share for every 25 members. The members' liability is 300 marks per share. The management is in the hands of a Board of eight members, elected by the members of the society and the Board in its turn elects three Directors.

Of the profits, 75 % are to be placed to the reserve fund until this fund is equal to the total amount of the shares, after which only 25 % of the profits shall be placed to it. The surplus net revenue may be utilised for payment of a maximum interest of 6 % on the shares.

The circumstances permitting, a further dividend in proportion to the purchases may be paid. Finally, any eventual balance shall be placed to a special fund, to encourage the development of agricultural co-operation or utilised for works of public utility.

The Union at this moment possesses ten storehouses. It also supports a consultation office and a laboratory for experiments.

Its work, previously limited to purchase and sale business, was extended in 1914 to include direct production, by the establishment of various workshops, as well as by the purchase of a large Swedish match factory.

The general progress of the Union, now possessing buildings in the six principal towns of the country, is seen in the following table.

TABLE XIII. — *Progress of the Union of the Co-operative Distributive Societies of Finland from 1905 to 1915.*

Year	Number of Societies Adhering	Branches and Storehouses	Staff	Capital		Sales in Marks	Annual Profit in Marks
				Subscribed	Not Paid up		
1905	27	1	10	112,400	84,300	1,004,000	17,000
1906	57	4	24	233,800	164,100	4,037,000	55,000
1907	80	5	58	303,800	224,100	8,885,000	154,000
1908	115	6	80	656,000	342,000	14,254,000	107,000
1909	131	6	88	789,500	382,200	14,072,000	155,000
1910	139	7	81	920,000	390,600	13,610,000	105,000
1911	148	9	104	1,101,000	432,000	16,142,000	367,000
1912	168	10	122	1,489,600	470,700	19,532,000	358,000
1913	196	10	137	1,867,600	538,200	22,968,000	189,000
1914	244	10	142	2,304,800	768,600	24,286,000	577,000

(c) *Central Co-operative Agricultural Purchase Society, "Labor."*

This society really dates from 1897. It was founded as a co-operative society for purchase and sale by a group of large landowners in the south of the country, for their exclusive use. After the promulgation of the law on co-operative associations in 1901, the "Labor", on the initiative of the "Pellervo", attempted to reorganise itself in order to assume the character of a central co-operative agricultural purchase society for the whole country. It only succeeded partially in this, as it would not accept the co-operative principles in their entirety, and, as we shall see hereafter, the "Pellervo" found itself obliged to promote the foundation of a central institution of a more really co-operative nature.

Now, after its partial reorganisation in 1906, the "Labor" accepts as members both private individuals and associations. The entrance fee varies from 50 to 500 marks as the Board of Management decides. The shares are 50 marks each. The liability is 1,000 marks per share and any member doing business with the society to an amount exceeding 5,000 marks in a year must subscribe a second share. From the profits there is first of all deducted a maximum interest of 6 % per share, and then 20 % is placed to the reserve fund, which is increased by the entrance fees.

In addition to the dividends contemplated in the rules, the "Labor" annually grants special dividends of an amount varying from 1 % to 3 % of that of the purchases during the year. In 1914, for example, this special dividend amounted to 27,500 marks.

The administration of business is in the hands of a Board of Management of six members. The "Labor" has branches and storehouses in various parts of the country. In 1914 it started a special pension fund for its employees.

The following table shows the progress of the "Labor" since 1906, that is to say since the reorganisation of the primitive association as a pseudo-co-operative central society. This table shows, better than many words could, how ineffectual this reorganisation has really been.

TABLE XIV. — *Progress made by the "Labor" from 1906 to 1915.*

Year	Number of Members		Branches and Store-houses	Staff	Capital		Sales in Marks	Annual Profits in Marks
	Total	Individual Land-owners			Subscribed	Not Paid up		
1906	195	164	—	11	427,000	385,000	1,564,000	38,000
1907	184	165	—	12	469,000	404,000	1,868,000	51,000
1908	229	198	3	15	492,000	406,000	2,301,000	11,000
1909	259	223	4	15	553,000	449,000	2,707,000	23,000
1910	267	227	6	20	611,000	487,000	2,408,000	28,000
1911	318	377	9	30	692,000	517,000	3,230,000	43,000
1912	383	335	12	39	842,000	671,000	4,302,000	61,000
1913	416	359	12	45	944,000	710,000	4,557,000	48,000
1914	429	371	12	51	982,000	751,000	5,139,000	81,000

(d) *Central Co-operative Agricultural Purchase Society, "Hankkija."*

As long as the negotiations for the reorganisation of the "Labor" as a real central co-operative agricultural purchase society for the whole country continued, the "Pellervo" confined itself to the maintenance of a temporary office, serving as intermediary for agricultural purchases for private individuals and associations not members of the "Labor." But as the negotiations did not succeed, the temporary office was quite naturally transformed into a central co-operative society under the name of "Hank-kija."

In addition to local co-operative societies, it also accepts as member individual farmers, but the number of these may not exceed one third of the total number of members. The shares are 100 marks each, and the members' liability is 400 mks. per share, and every member must subscribe shares in proportion to the amount of the business he does with the association in the year. From the annual profits 20 % is deducted and placed to the reserve fund until that fund amounts to 200,000 mks. A second amount of 10 % is placed to a special fund for the development of agricultural co-operation and other works of public utility. It is only after these compulsory deductions have been made that a dividend of a maximum amount of 6 % may be paid on shares.

There is no provision in the rules in regard to eventual dividends to members on the amount of their annual purchases. In 1914, the amounts distributed under this head came to 40,600 marks.

The association has a Board of Management of six members, which elects a Board of Directors consisting of three members.

The "Hankkija" has founded branches in about ten of the most important agricultural centres of the country; it has also numerous storehouses in places best suited for despatch and transport.

Its progressive and constant development is seen in the following table.

TABLE XV. — *Progress of the Central Co-operative Agricultural Purchase Society, "Hankkija."*

Year	Number of Members		Branches and Storehouses	Staff	Capital		Sales — in Marks	Annual Profits — in Marks
	Total	Individuals			Subscribed — in Marks	Not Paid up — in Marks		
1905 . . .	67	—	—	10	33,800	26,800	700,000	10,000
1906 . . .	97	—	—	17	55,800	38,800	1,500,000	6,000
1907 . . .	134	—	2	23	82,300	54,800	2,600,000	31,000
1908 . . .	206	25	3	28	253,700	87,200	3,100,000	9,400
1909 . . .	359	121	5	25	241,600	162,400	2,841,000	29,800
1910 . . .	358	122	7	28	207,300	162,800	3,589,000	15,900
1911 . . .	439	148	9	38	262,500	196,000	4,817,000	61,500
1912 . . .	482	156	10	45	329,000	212,800	5,444,000	75,600
1913 . . .	610	196	14	66	478,000	287,200	6,163,000	41,600
1914 . . .	832	271	15	76	632,400	409,600	7,023,000	116,000

(c) *Central Co-operative Society, "Valio," for Export of Butter.*

On account of the extreme attention it gives to orders and its strict requirements in regard to the quality of the produce it delivers, this institution, which began in a very modest way in 1905, is now second in importance among undertakings of the kind in the countries of Northern Europe.

As members it may only accept butter making societies (co-operative or limited by shares), which satisfy certain very strict conditions in regard to their organization and equipment.

The shares are 100 marks each, the liability of members is 500 marks per share and each member must subscribe a number corresponding with its annual production. The entire produce must be consigned to the "Valio."

After deduction of amounts to be placed to various funds according to the rules and a maximum amount of 6 % interest on the shares, the entire net profits are divided among the members in proportion to the amounts represented by the produce consigned.

The society has a Board of Management of 10 members elected at the general meeting of members and a Board of Directors of 3 members elected by the Board of Management. It has its headquarters at the port Hangö, and communication by sea is kept open all the winter by means of powerful ice breakers. Branches and storehouses are installed in various parts of the country and at Petrograd.

Besides its chief business, the "Valio" has organised special dairy and cheesemaking courses. It has also instituted dairy shows to which it annually assigns very considerable prizes. We saw above that lately the "Valio" has undertaken the encouragement of poultry improvement. In this field also the results obtained have been most remarkable.

Finally, the "Valio" supports several experts who traverse the country in every direction to give advice, not only to the members of the association but to any one who asks for it.

The development of this remarkable institution is seen in the following table.

TABLE XVI. — *Development of the "Valio" from 1906 to 1915.*

Year	Members (Butter Making Societies)	Branches and Store- houses	Staff	Capital		Sales — Mks.	Annual Profit — Mks.	Share of the "Valio" in the Total Exportation from the Port of Hangi
				Subscribed	Not Paid up			
1906 . .	80	—	8	125,000	125,000	7,491,000	115,000	20.9
1907 . .	141	—	12	247,100	195,500	11,141,000	125,000	38.1
1908 . .	146	—	14	281,000	203,050	11,770,000	129,000	39.7
1909 . .	150	1	20	308,600	207,000	11,840,000	119,000	42.4
1910 . .	157	2	24	361,700	215,000	13,310,000	139,000	48.5
1911 . .	150	2	25	408,000	223,000	15,367,000	283,000	47.8
1912 . .	172	2	42	478,500	248,000	17,548,000	133,000	52.1
1913 . .	201	2	39	557,000	301,000	21,179,000	262,000	64.3
1914 . .	232	4	64	668,000	349,000	23,558,000	544,000	81.4

MISCELLANEOUS INFORMATION RELATING TO CO-OPERATION AND ASSOCIATION IN VARIOUS COUNTRIES.

CANADA.

CO-OPERATIVE WOOL SELLING IN QUEBEC. — The *Agricultural Gazette of Canada* for August contains an interesting note on the work of a number of associations for the co-operative sale of wool which have been organised in Quebec, chiefly through the efforts of members of the staff of the Animal Husbandry Department of Macdonald College. Assisted by a Federal grant the Department has been able to undertake a good deal of extension work, and, in addition to giving a large number of lectures and demonstrations illustrating the proper methods of shearing, and of preparing and packing fleeces, has this year successfully assisted eight local wool growers' associations to market their wool.

The results have been most encouraging. Last year a beginning had already been made in Co-operative wool selling, though in a very tentative way, with a single association in Pontiac County, which that year sold about twelve thousand pounds of wool direct to manufacturers at an advance upon current local prices of from five to seven cents a pound. This year — 1915 — eight associations, including that of Pontiac, sold collectively at excellent prices a total of 104,192 lbs. of wool. Particulars of the sales for each association are shown in the following table:

Particulars of Associations and Sales in 1915.

Association	Number of members	Number of fleeces	Average weight per fleece	Average price per fleece	Total amount received for wool	Average price per lb. wool
Pontiac	413	6,182	7.06 lbs.	\$2.15	\$13,348.30	30.57 cents
Compton	150	1,806	7.1 "	2.15	3,890.27	30.27 "
Stanstead	83	1,222	8.1 "	2.50	3,060.90	30.80 "
Richmond	75	1,360	7.33 "	2.23	3,022.07	30.12 "
Beauharnois	79	1,029	8.3 "	2.48	2,549.23	29.63 "
Belford	55	815	8.1 "	2.46	2,045.65	30.52 "
Argenteuil	67	910	7.0 "	2.13	1,938.01	30.63 "
Sherbrooke	53	812	7.4 "	2.26	1,834.77	30.35 "
Totals	975	14,136	7.37 lbs.	\$2.29	\$31,689.20	30.36 cents

The members were supplied with sacks through their associations and were instructed how to prepare and pack the fleeces. Arrangements were made for the wool to be assembled, graded and offered for sale on definite dates at a number of convenient centres within the districts, and the wool was offered in good condition, unwashed, and well packed. As a result, it was sought after by buyers, and realised prices which, according to quality, varied from five to ten cents above prevailing prices.

It will be seen that the Pontiac association, the only one which has been in existence for two seasons, has now more than four hundred members and increased its sales enormously in its second year.

Our readers will remember that we described in our September issue a very similar scheme which was put into operation in Saskatchewan in 1914. It is too early yet to weigh results, and it is common knowledge that many schemes of the kind in different countries have succeeded for a few years (while conditions, perhaps, were very favourable) only to collapse when conditions changed. But history does not necessarily repeat itself, and the schemes we have described have this important element of soundness, that the associations concerned are not merely agencies for selling wool, but are, first and foremost, associations for improving the quality of the wool produced. This being so, their success as selling agencies is likely to be permanent as in each season they will be in a position to offer wool in large lots, uniformly well packed, and of a quality upon the whole superior to the average quality on offer. The Canadian experiments, therefore are well worth watching.

FRANCE.

CO-OPERATIVE DISTRIBUTIVE SOCIETIES IN FRANCE ON JANUARY 1st., 1914. — The *Bulletin du Ministère du Travail* (Labour Office Bulletin), in its number for May-June, 1915, gives information in regard to the French co-operative distributive societies on January 1st., 1914. Leaving out of consideration: 1st., military co-operative societies, 2nd., societies for collective purchase and manufacture of raw material; 3rd., agricultural or other syndicates that have not founded separate co-operative distributive societies; 4th., mutual pharmacies; 5th. stewards' and other warehouses for sale of goods founded by employers for the use of their staff; 6th., commercial societies making deductions in favour of purchases; there were still working 3,156 co-operative distributive societies properly so called on January 1st., 1914, as compared with 3,145 on January 1st., 1913. This increase must be more apparent than real, as the enquiry made in 1914 revealed the existence of several societies that had given no sign of life previously. In fact, 92 societies were founded during the year, but 109 were dissolved, so that there must rather have been a slight decrease in their numbers. The Department of Nord heads the list with 322 societies;

comes Charente-Inférieure, with 226 associations. Pas-de-Calais, Deux-Sèvres, Gironde, Vosges and Ardennes follow, with more than 100 each. Seine comes only eighth with 99. There is no department that has not at least one; Lozère and Constantine have only one each, but there are 23 departments with less than ten each.

The societies do not limit themselves to the wholesale purchase of produce and merchandise with the object of selling again retail to the associates and sometimes to the public. A large number themselves undertake the manufacture of the goods they sell or at least their industrial transformation, before they deliver them to the consumers. This is especially true of the co-operative bakeries which, at the end of 1913, were 1,299 in number, and to which we must add 597 societies, selling both bread and other articles. We find the largest number of these bakeries in Charente-Inférieure: that department has 217 alone, whilst Deux-Sèvres, which comes next, only shows 106. Seine has almost the last place, as it has only 2 societies. It is not very easy to determine the precise number of members and the amount of the business done by the societies, as many did not answer the lists of questions forwarded to them as promptly and carefully as might be desired. Thus we have only information in respect to the business of 2,988 societies, with a total number of 876,179 members. They had done a total business of 315,212,000 frs. in 1913. On the other hand, 90 only reported the number of their members, 13,541 all told. So that there was altogether a total of 890,000 members reported. The 1,212 co-operative bakeries reporting had alone 273,681 members and had done a total business of 65,200,000 frs. in the year. The department of Nord showed the largest number of members and the largest total business, the former being no less than 185,783 and the business done amounting to more than 56,984,000 frs. The least favoured department is again that of Lozère, which reported only 98 members and only 12,000 frs. total business done. For the department of Seine, the figures known are as follow. Paris, 46 societies, of which 45 had 64,319 members and had done business to the amount of 22,087,000 frs.; suburbs, 53 societies, of which 51 had 16,833 members and reported business done to the amount of 7,902,000 frs.

Finally, in regard to the profession of the members, it is interesting to note that 116 co-operative distributive societies recruit their members exclusively among railway employees. Amongst these, 111 reported 69,749 members and a total business of 25,443,000 frs. Again, 23 societies have for their members only Government employees and workmen.

GREAT BRITAIN AND IRELAND.

CO-OPERATIVE FARM IMPLEMENT SOCIETIES. — A few years ago, under the auspices of the Irish Agricultural Organisation society, a scheme was devised for the formation of co-operative societies which should be

able to place at the disposal of their members practically every kind of farm implement, from a one-horse plough to a high-power agricultural tractor. The scheme is described in an article by Mr. T. Wibberley, which appears in the August number of the *Journal of the Board of Agriculture*. In illustration of its results in increasing the area under tillage, the writer gives the following figures relating to four societies:

Society	Number of Members	Total area in tillage for each Society			Average increase per Member
		1913	1914	1915	
		Acres	Acres	Acres	Acres
Meenabeela (Co. Limerick) . . .	21	71	104 $\frac{1}{2}$	158 $\frac{1}{2}$	4.1
Killeedy (Co. Limerick)	20	122	146	176	2.7
Menlough (Co. Galway)	64	454 $\frac{1}{4}$	519	683	3.6
Fourmilehouse (Co. Roscommon) .	32	94	106	153	1.8
Totals	137	743 $\frac{1}{2}$	875 $\frac{1}{2}$	1,171	—
Averages	34	186	219	293	3.12

These societies were not specially selected, but all are situated in very poor districts, amongst farmers whose capital is very limited and whose holdings average about 30 acres. Had all Irish farmers increased their cultivated area in the same average proportion as the members of these societies, the result would have been an increase of 1,500,000 acres under the plough.

The societies are formed in the same way as other agricultural co-operative societies. As a rule each member is required to take at least five shares of the nominal value of £1, and to pay 2s. 6d. par share on allocation. He also signs a form making himself responsible to the committee for the payment of his shares in full, in the event of the society meeting with financial disaster. The working capital is obtained by means of an overdraft from the local branch of a joint stock bank. This is guaranteed by the members of the committee, who are thus directly responsible to the bank for the security of the amount borrowed, but are in turn secured by the uncalled share capital.

As a general rule, the implements are hired out in the order in which applications for them are made by the members, but precedence is given to the member who wishes to use the implement for the longest period. The rate at which implements are hired out to members of a society is about half what it would cost to carry out the various operations under the old régime. If, for instance, potato sorting by hand costs 15s. per ton, the ploughing

o-sorter is hired out at 7s. 6d. per ton. Again, if the ploughing of stubbles horse labour costs 10s. per acre, a double disc harrowing with the agricultural tractor (which tills the land more effectively) is undertaken the rate of 5s. per acre. In the case of corn threshing the usual rate 1½d. per stone threshed.

A well-managed society can soon earn sufficient to pay for the initial cost of the implements. Many instances are on record where a society commencing with two binders has in one harvest earned sufficient to purchase a potato-digger. The potato-digger has gone out on hire, and in its first season has earned sufficient to buy a corn drill, which in like manner has earned the price of a horse-power sprayer, and so on. A society usually begins operations in a small way, but once the farmers of the district recognise its utility the membership rapidly increases, and the society then comes in a position to undertake the purchase of the more expensive implements.

Part II: Insurance and Thrift

GENERAL.

TECHNICAL CONDITIONS OF FORESTRY INSURANCE.

In the course of the year 1913, we had occasion twice to point out the considerable difficulties in the way of forest insurance, and, consequently the still rudimentary condition of most of the organisations that endeavour to undertake these risks which as yet have been little studied and are not well known. In regard to forestry insurance in France, we said in March, 1913: "The insurance of forests against fire is very badly organized, and in addition is very rarely met with. Nearly all the measures now taken against fire are simply preventive." In September of the same year, speaking of forest insurance in Norway, we showed that, up to 1911, such insurance had had hardly no practical importance. Evidently this situation can only be temporary: it in any case invites us to give all our attention to the suggestions the specialists may make with the object of more nearly ascertaining the extent and limits of fire risks in forests, with a view to fixing a more suitable tariff for these risks. Such are the very interesting ideas M. Lécaille, expert engineer of Commerce, expressed in the course of a lecture, delivered on January 20th., 1912, before the Lorraine Section of the Forest Society of the Friends of Trees. We shall summarise them briefly, considering in turn the nature and the gravity of the damage caused by fire, the various methods employed in estimating the damage and the clauses and tariffs of the Insurance Companies.

§ 1. DAMAGE CAUSED BY FIRE.

The damage due to fire is of various character, and consists in the loss of:

(1) the profit that would have been derived from the ordinary cutting of the parts of the forest destroyed;

- (2) the root stock ;
- (3) the vegetable covering (underwood or the lower part of the trees) and the seeds sown ;
- (4) the leaf litter, nitrogenous manure formed by successive falls of leaves or needles.

Various accessory losses are also to be considered, consisting in :

- Difficulty in regulation, due to partial and premature cutting ;
- Reconstruction of roads destroyed by such cutting ;
- Travelling and valuation expenses ;
- Decrease in value of hunting and shooting leases ;

Various limitations of enjoyment.

Generally, the insurance only contemplates repayment of the intrinsic value, on the day of the fire, of the amount of wood destroyed, which is less than the value, on the same day, of the future profit to be derived from the ordinary cutting.

It also sometimes, but very rarely, and by means of a special extra premium provides against a second loss, called difficulty in regulation which is, however, not the difficulty in regulation, understood by foresters. This special loss is, as we shall see, a consequence of the method pursued in calculating the first.

When the root stock is insured, which is even a rarer matter, the policy generally takes account only of the purchase price of the plants to the exclusion of the expense in labour.

When a fire is caused by an outsider who is responsible and solvent, for example, by a railway company, the owner of the forest burned has a claim to compensation for all the losses suffered enumerated above. In other words, he has a right to full satisfaction for the loss suffered.

The nature of the losses caused by fire being thus established, let us now consider their importance. This varies with the nature of the forest and the season.

(A) *Broad-leaved forests.* — Fires are most frequent in spring, when the living undergrowth does not sufficiently protect the combustible leaf litter. The fire generally originates in the leaf litter and only it and the undergrowth are ever completely consumed. The heat due to this combustion affects the bark, and the vitality of the trees will suffer more or less, according to the thickness of the bark protecting the cambial layer, the only living part of the trunks. The wood proper is very rarely attacked and will lose very little of its market value.

Thus the high forest wood has so to say nothing to fear from fires; the standards of stored coppices only very rarely suffer, and, according to M. Lécaille, experience has shown that it is only in fires of exceptional importance that the loss suffered by the standards amounts to the fifth part of the value of these trees. The copse wood will suffer more, but it is very seldom that the damage extends beyond the bark.

The root stock will not generally suffer at all from fire, and, after cutting back, there will be new shoots from the old root stocks.

Fire therefore will only cause broad leaved trees damage of very slight importance. M. Lécaille mentions the case of 7 fires occasioned in 1911 in Lorraine by a local railway, for which a total sum of not more than 700 frs. was paid, that is an average of 100 frs. per fire. Either the forests were young and their value is slight; or they are older and less exposed to fire. After the fire and deduction of the loss, the older they are the more considerable will be the proportion of the salvage. Thus, again according to M. Lécaille, in a very serious fire in Belgium in 1911, extending over nearly 50 hectares and causing more than 12,000 frs. damage, compensation was only allowed, in the case of copsewood ready to be cut, to the amount of 50 fr. per ha., that is to say for the value of the bark.

(B) *Conifers*. — Fires cause more considerable losses among conifers than among the broad leaved trees. As the sap consists of eminently combustible material by which the bark is impregnated, the combustion will be the more complete. Nevertheless, the wood itself seldom suffers, and the value of the salvage will be more considerable the older the trees are.

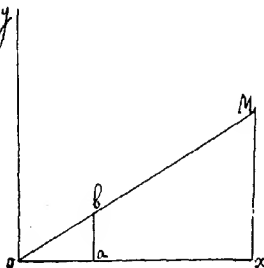
Let us, however, observe that, in the case of conifers, the death of the upper part will entail that of the part below the ground and consequently the loss of the root stock.

§ 2. METHODS OF ESTIMATING LOSSES.

The loss occasioned by a fire being the difference between the value before and after the fire, M. Lécaille shows as follows the methods of estimating the value of a forest of a given age.

(A) It may first of all be admitted that the value of a forest is in proportion to its age. This has the incontestable advantage of simplicity, but it must be recognised that the value thus calculated is higher than the present value of the future proceeds to be obtained by felling the trees.

If we express this method by the usual diagram, marking different lengths, on a line ox (axis of age), corresponding with the age, and draw perpendiculars to these points of length in proportion to the value of the wood, the growth of the wood will be represented by a straight line om .



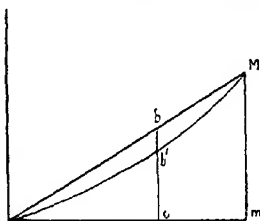
If at 30 years the value of the cutting is 300 frs., represented by the length Mx , the value at the age represented by the length oa will be represented by the length ab .

(B) *Method of the Insurance Companies*. — To find the value of a copsewood not yet arrived at the age for cutting, the Companies assume, as

in the preceding method, that the value of the wood increases at an equal rate, but as the value in proportion to the age cannot be immediately realised, the Companies reduce it by means of a discount calculated at compound interest for as many years as have to run between the date of the fire and that of the felling, so as to calculate the compensation for the date of the fire and not of the felling.

The rate of interest adopted was formerly 5 % and has been in turn reduced to 4 % and 3 ½ %. Some Companies even allow 3 %.

Expressing this method by a diagram, the successive values will follow the curve $o b' M$. The value $c b$ corresponding with the age being reduced by the length $b b'$, representing the discount for m years.



The length $b' c$, value of a forest, will be so much greater as the length bb' is less, that is to say it will be the greater the smaller the discount is. The concavity of the curve will thus decrease with the rate.

For standards, the Companies adopt another method which we shall show below. The value of the young plantations is generally determined by the method just explained.

(C) *Foresters' Method.* — To estimate the future value of a wood, the foresters consider the capital, which, invested at the start at compound interest at the rate T , has become at the time of felling equal to the revenue from the cutting. The value of a forest at a given age is, for the foresters, the difference between the value of this capital at interest at this age and the original capital considered as immobilisable. In this way the growth of a forest is assimilated to that of a capital sum invested at the first plantation at about 7 % compound interest.

(D) *Method of Annuities.* — According to this method, the increase in value of a forest is assimilated to the increase in capital through the successive investments of the same annuity at compound interest, at the end of each year during the whole period of forest management.

These methods are employed to estimate the value of a forest which has no market value as yet, that is to say copsewood before the usual period for felling, or conifers before they are felled for mining timber.

The trees of the first class if allowed to grow are classed as timber and their price per cubic metre is far higher.

The following is the rule habitually followed by the Insurance Companies in fixing the value of a tree :

The value, fixed as if it had arrived at the age for felling (generally 120 years) is reduced by a discount at compound interest for so many years as remain to pass before the age for felling is reached. The rate of discount has varied as in the case of copsewood ; it is now about 3 %.

Let $c b$ be the present value of a tree, estimated on its cubic contents. At the age for felling $o c$, its value will be $C M$; its successive values increase

along the curve bM , according to the natural law of growth, that is to say, very nearly in the same way as an amount invested at 7 % compound interest. The estimated value allowed by the Insurance Companies will be cb' , which is far higher than cb , for the curve $b'M$ is the line of increase of the capital at 3 %, and the curves of increase approach more nearly to the line OM , the lower the rate is.

The estimated value calculated for the standards is, like that for the copsewood, higher than the intrinsic value; because the estimated values must be considered as representing the present value of a future profit.

Indeed, the insurance of woods, forests and plantations can only be considered as assurance of a future profit.

Comparison of these Methods. — In order to compare the results obtained by these various methods, M. Lécaille has calculated on each system the value for every age of a hectare of copsewood, which is worth 317 frs. at 33 years. For the purpose he has calculated by means of the formula $y = f(x)$, the value y at the age x of a forest giving at the age n a yield R . If t is the rate of interest, T the rate of capitalisation of the forest (7 %), F the value of the land:

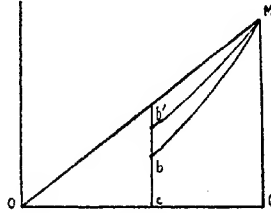
by the method of valuation in proportion to the age of the forest, $f(x) = x \frac{R}{n}$.

by the Insurance Companies' Method, $f(x) = x \frac{R}{n} \left(\frac{1}{1+t} \right)^{n-x}$

by the Annuities Method, $f(x) = \frac{R}{(1+t)^n - 1} [(1+t)^n - 1]$.

by the Foresters' Method, $f(x) = \frac{F+R}{(1+T)^{n-x}} - F$,

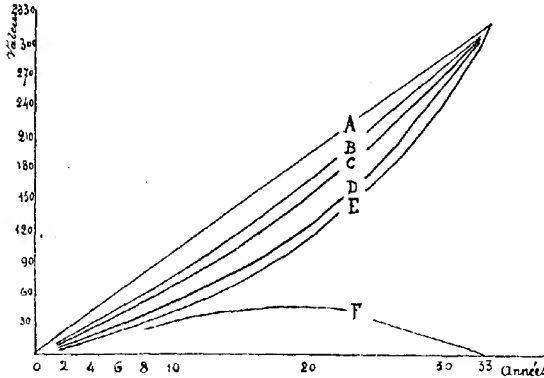
Thus he arrived at the following table in which the calculation has been made to the nearest quarter, the rate of interest taken being 3 %.



Values of a hectare of Coppsewood, worth 317 frs. when 33 years old.

Age	Proportional Value	Insurance Companies' Method	Difficulty in Regulation	Total of the Two Preceding Columns	Annuities Method	Forester's Method
1	9.50	3.25	3.50	7.75	5.25	8.25
2	19.25	6.50	6.75	13.25	10.75	15.50
3	28.75	10.25	10.00	20.25	16.25	23.25
4	38.50	14.25	13.25	27.50	22.25	31.75
5	48.00	18.25	16.25	34.50	28.25	40.25
6	57.75	22.75	19.00	41.75	34.50	48.75
7	67.25	27.50	21.75	49.25	41.00	57.25
8	77.00	32.50	24.50	57.00	47.50	65.75
9	86.50	38.00	27.00	67.00	54.50	74.25
10	95.25	43.50	29.00	72.50	61.75	82.75
11	105.75	49.75	31.25	81.00	69.25	91.25
12	115.50	55.75	33.00	88.75	76.75	99.75
13	125.00	62.75	35.00	97.75	84.75	108.25
14	134.75	70.25	36.25	106.50	93.00	116.75
15	144.25	77.75	37.50	115.25	101.50	125.25
16	154.00	85.75	38.50	124.25	110.25	133.75
17	163.50	94.25	39.25	133.50	119.50	142.25
18	173.25	103.25	39.75	143.00	130.00	150.75
19	182.75	113.00	39.75	152.75	138.75	159.25
20	192.50	123.00	39.75	162.75	148.75	167.75
21	202.00	133.75	39.50	173.25	159.25	176.25
22	211.75	145.25	38.50	173.75	170.25	184.75
23	221.25	157.00	37.25	194.25	181.25	193.25
24	231.00	169.50	35.75	205.25	193.00	201.75
25	240.50	182.75	33.75	221.50	210.00	210.25
26	250.25	196.75	31.25	228.00	218.25	218.75
27	259.75	211.25	28.50	239.75	230.25	227.25
28	269.50	226.75	25.00	251.75	243.75	235.75
29	279.00	243.25	21.00	264.25	257.50	244.25
30	288.25	260.25	19.25	279.50	271.75	252.75
31	298.25	268.50	11.75	290.25	287.50	261.25
32	308.00	297.50	6.25	303.75	301.75	269.75
33	317.50	317.50	—	317.50	317.50	317.50

The comparison becomes more striking when we follow M. Lécaillon and represent the values obtained in the following diagram.



Explanation.

- A. — Method of Valuation in Proportion to the Age of the Forest.
- B. — Insurance Companies' Method, including Difficulty in Regulation.
- C. — Annuities Method.
- D. — Insurance Companies' Method.
- E. — Foresters' Method.
- F. — Difficulty in Regulation.

As our authority remarks, in order that by the method of valuation adopted fair compensation may be given for the loss suffered, the value at date of fire estimated, at compound interest up to the age for felling, increased by the value of the natural reproduction, should be equal to the yield of the cutting, so that $f(x) = (1 + i)^n \cdot f(x) + f(n-x)$. In one word, this method should compensate for the loss called by the Insurance Companies "Difficulty in Regulation."

The annuities method alone offers this advantage.

We see by the diagram that the values arrived at by the annuities method are not the same as those given by the Insurance Companies' method, increased by the value of the difficulty in regulation, but are slightly lower. This is because all these values are estimates only and depend essentially on the method of calculation adopted. The first is a function of

$(1 + i) \cdot \frac{x}{n}$ the second of $(1 + i)^n \cdot \frac{x}{n}$

When the value before the fire has been fixed, the loss is arrived at by deducting from that value the salvage immediately realisable. It is

generally supposed, but M. Lécaille considers it an error, that the expense of cutting back is compensated by the value of the wood, in the case of forests of some age. With the present high price of labour such compensation is not possible and the costs of cutting back generally exceed the profits, in the case of young coppes burned. It must be considered further that the cutting back must be done immediately after the fire and not at the usual season of cutting wood.

§ 3. INSURANCE COMPANIES' TARIFF.

The tariffs vary with the different companies or societies. We give, by way of example, those adopted by the Companies belonging to the General Syndicate of French Fixed Premium Fire Insurance Companies.

Net (1) Annual Premiums for an amount of 1,000 frs.

Broad Leaved	More than 25 years old	2.40
Trees	25 years old or under	0.75
	From 1 to 10 years old	10.00
	" 10 " 15 " "	5.00
	" 15 " 30 " "	3.50
Conifers	" 30 " 50 " "	2.50
	50 years old and over, Mixed with younger trees . . .	1.50
	Not mixed	1.00

To these figures must be added the taxes, and, for the first year, the costs of the policy and 55 centimes a year for "registration expenses."

For this tariff, account is only taken of the dangers inherent in the nature of the forests themselves, without considering the other circumstances which may have an influence on the origin or development of the fires (the situation of the forests in the neighbourhood of houses or not in dry or rainy regions, their division by means of large firebelts, or the absence of such division).

§ 4. CLAUSES OF THE INSURANCE POLICY.

These clauses are of two kinds: those for fire insurance generally and the special clauses for forest insurance.

Among the first, M. Lécaille only mentions that styled "the rule of proportion", which is as follows: "If expert examination shows that at the moment of the fire the value of the objects insured exceeds the

(1) That is free of taxes.

amount assured, the policy holder is his own insurer for the surplus and must bear his proportion per franc of the loss." This clause makes it necessary to insure for the maximum value the forest may acquire during the period in which the policy is taken out.

Let us now pass to the most interesting of the special clauses of forest insurance.

(A) *Copsewood*. — The policy holder is bound immediately to make known any change he makes in the organisation of the forest, under pain of forfeiting all claim to compensation in case of fire.

The Company will in no case be responsible for damage to heaths, bogs, moors or what it has been agreed to call undergrowth.

In case of fire, experts shall estimate at the current rate the market value of the copse as if it had attained the usual age for felling. They shall divide this value by the number of years of the forest management and multiply the result by the age of the coppice burned. The value thus arrived at should properly only be received at the date on which the policy holder would receive the price of the wood cut, but if the Company pays the claim in cash, if the forest burned has not yet reached the age for felling, this value can be reduced by a discount of $3\frac{1}{2}\%$ compound interest. This discount shall be calculated for as many years as each parcel burned requires to attain the regular age for felling.

In case of disagreement in regard to the valuation of the loss, the final settlement shall only be made in the month of September of the year immediately following the loss.

(B) *Standards*. — To estimate the damage to standards, the experts shall determine: 1st. the average age at which the trees are felled; 2nd. the age and total value for each age of all the trees damaged, as if they had reached the above age for felling without suffering from fire; 3rd. and finally, the loss in value also for all the trees of each age there may be at that date. The loss will be the difference between these two valuations and the compensation must be fixed after deduction of $3\frac{1}{2}\%$ compound interest per year.

(C) *Restocking*. — Restocking, when stocks have been killed by fire, will be calculated at the rate of two plants for one, planted between the old stocks as usual, without uprooting the latter.

(D) *Insurance of Difficulty in Regulation*. — To fix the loss the fire may cause in difficulty in regulation of the copses, the experts will fix the price they have established per hectare of complete growth and will deduct therefrom: 1st. the claim already fixed for the loss in cousewood increased by the interest from the date of the fire up to that of the usual cutting; 2nd. the value the natural reproduction will have attained at the usual date of cutting, less the cost of cutting back, as if the natural reproduction were again burned at that date. The remainder after these deductions will be the amount of the loss, on which discount of $3\frac{1}{2}\%$ compound interest is calculated from date of the fire up to that of the ordinary cutting, since the claim is paid in cash.

(E) *Conifers*. — Seeds and seedlings of less than five years' age are not insured.

(F) *Miscellaneous Clauses*. — In forests not consisting of conifers a tenth part of scattered conifers will be allowed, without extra premium.

Finally, it is expressly agreed that the Company only insures what is above the soil at the height of the ordinary cutting and does not compensate for loss of root stocks, which it does not insure.

§ 5. RESULTS OF FOREST INSURANCE.

(A) *Copsewood*. — The premiums paid for insurance of copsewood, including the special risk of difficulty in regulation, capitalised at the same rate as that contemplated in the insurance contract during the whole period of forest management, amount to about 4 % of the value of the wood when cut.

This is too high a charge in view of the small risk of fire and the generally insignificant compensation due for loss through fire.

(B) *Conifer Forests*. — Let us suppose a hectare planted with Austrian pine, felled at 33 years; if insured in the cheapest way, that is with five years' policies, the claims paid on the Insurance Companies method will be as follows, supposing the hectare completely destroyed

The first year	the maximum compensation will be	12.80
» second	» » » » » »	26.50
» third	» » » » » »	41.20
» fourth	» » » » » »	56.80
» fifth	» » » » » »	73.45

The financial results of the felling are shown in the following table

Period	Amount Assured	Premium per cent	Annual Premium	Capitalised Premium		Maximum Claim
				In the Period	From the Start	
From 0 to 5 years	73.45	11.046	0.80	4.45	4.45	73
" 5 " 10 "	174.50	11.046	1.95	10.80	15.95	174
" 10 " 15 "	311.00	5.546	1.70	9.45	27.90	311
" 15 " 20 "	492.35	3.896	1.90	10.55	42.90	492
" 20 " 25 "	730.90	3.896	2.85	15.80	65.60	730.90
" 25 " 30 "	1,041.75	3.896	4.05	22.45	98.55	1,041.75
" 30 " 33 "	1,272.50	2.796	3.00	13.05	125.10	1,272.50

Thus in the case of conifers, about 10 % of the value of the yield of wood when cut must be utilised for insurance.

Practically the insurance will be even higher in proportion, for, in M. Lécaille's calculations, no account was taken of policy and registration expenses and he supposed the insurance to be limited to the amount strictly necessary.

The results are not more satisfactory for the Insurance Companies which refuse so to say systematically to insure conifers and generally only undertake the risks for broad leaved forests when they are obliged to for commercial reasons.

These poor results are due to the adoption of ill-considered tariffs which prevent the insurance of good risks which alone could give profits.

In order that the insurance of forests, woods and plantations against fire may develop and become habitual like the insurance of other estate, real and personal, the insurance, while giving the insurers legitimate profits, should compensate the proprietors for the greater part of their losses, without their having to pay too high claims.

In this connection, M. Lécaille makes the following suggestions.

First the tariffs should be established by regions and vary with the regions. If the Insurance Companies have recognised the necessity of adopting higher or lower tariffs according to the regions for ordinary property, such a necessity is the stronger in the case of forests.

The insurance premiums further vary with each region. They are higher where the population is least dense, and are in proportion to the more or less effectual assistance that can be given in case of fire. A similar difference should be made, in the opposite sense, in the case of forests. The tariffs should be higher the nearer the forests are to towns, that is to say the more they are frequented by visitors.

The premium should also be affected by the neighbourhood of railways, charcoal kilns etc.

Finally in fixing the tariffs account should be taken of the division of the forests by wide fire belts or the absence of such division.

The statistics of forest fires collected would allow of the fixing of the tariffs on secure bases.

On the other hand, the Companies should make the following changes in their contracts:

(1) They should adopt the annuities method for calculation of the value of the forests that have as yet no market value, but of which the value of the yield from the cutting is known (copsewood).

(2) They should repay the costs of labour, and purchase of plants and pay the rental value of the soil with interest for wood that has as yet no market value and the future value of which is uncertain (young plantations).

(3) They should apply the method adopted in the case of the standards to forests that have a market value on the day of the fire.

(4) They should no longer assume that the cost of cutting back is compensated by the value of the yield, in the case of young copsewoods

and plantations and should take account of the expenditure, when it exceeds the value of the produce.

(5) They should undertake, for extra premiums, the risks of restocking and of the leaf litter.

Till these improvements have been agreed to and as long as the tariffs are not fixed more in accordance with real conditions, forestry insurance can only be considered as a palliative in anticipation of an almost certain event, and only those forest proprietors will continue to insure who are especially exposed to the risk of fire.

GREAT BRITAIN AND IRELAND.

MUTUAL, CATTLE INSURANCE IN ENGLAND AND WALES.

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INTRODUCTION.

In the *Monthly Bulletin of Economic and Social Intelligence* for October, 1914, appeared an article describing the "Insurance of Pigs in England and Wales" by means of the numerous village organisations generally known as Pig Clubs. It was there shown that there were over 1,000 clubs in existence for the insurance of pigs and that these clubs had been formed almost entirely on the initiative of the villagers and small pig-keepers in the country districts, by whom they continue to be managed for their mutual benefit. Similar clubs exist for the insurance of cows and young cattle but they are not nearly so numerous. A few clubs in addition exist solely for the insurance of horses, while several of the clubs which insure cattle deal with horses as well.

For our present knowledge in respect to the different varieties of these insurance clubs we are, to a very large extent, indebted to the careful and painstaking researches of Sir James Wilson. The Board of Agriculture and Fisheries through him have done most valuable work in investigating the history and experience of a number of the existing clubs and have also collected and published valuable statistics in regard to them. The experience which has been gained over a number of years by the most successful of the old established clubs is naturally of the greatest service in enabling assistance and advice to be given to those who may contemplate the formation of similar institutions in districts where previously no club existed. As a result of the knowledge obtained in this way the Board of Agriculture have issued Model Rules and explanatory notes for the guidance of those wishing to start new clubs. Throughout the pages which follow constant reference is made to the publications of the Board of Agriculture and we wish fully to acknowledge the extent to which we are indebted for our information.

The cow clubs are, as far as can be ascertained, quite as old established as the clubs insuring pigs which were described in the earlier number of the *Bulletin*; in fact the oldest known club is the Cow Club at Mawdesley in Lancashire, which was founded so long ago as 1807. If we substitute cows for pigs, a good many of the remarks in the previous article descriptive of the working of these clubs will be equally applicable to the class of society now under consideration. For the benefit of those readers who have not access to the former article, however, it may not be out of place to give a brief description of the general methods of working. The statistics and the figures which relate to such matters as death rate, insurance contributions, compensation, etc., are naturally quite different and must be considered separately.

§ I. COW CLUBS: OBJECT AND SCOPE.

We shall confine ourselves to dealing with the form of organisation known as a Cow Club, as this is the only method of mutual cattle insurance at present in operation in the country of sufficient importance to be considered at length. It should be noted that in these clubs insurance is practically confined to milking cows and calves; fattening animals and young stock are not dealt with except in the case of a very few and exceptional instances. In regard to horse insurance we shall only include those cases where this branch of work is dealt with in the same club as cattle insurance.

As in the case of the pig clubs, the cow clubs also are generally confined to a single parish or at most to one or two neighbouring parishes. Their object is to secure their members against the loss of their animals through disease or accident by creating a fund built up from small regular insurance contributions, paid by the members in respect of each animal insured. The exact amount of the contributions varies a good deal in the different clubs, as do the arrangements for covering the expenses of management, and we shall deal with these matters rather more fully later on. When an animal dies the owner is entitled to receive compensation from the funds. It is practically a universal provision that the club shall not be responsible for giving compensation in the case of any accident or death caused by wilful negligence on the part of the owner. This compensation is usually calculated in proportion to the value of the animal and is nearly always limited to a maximum amount, say £10 or £12, the amount payable generally being some fraction, say four-fifths or three-quarters, of the full market value. The affairs of the club are in the hands of a Committee elected annually by the members and there are as a rule one or more officers known as Markers or Stewards. It is their duty to inspect the animals which are offered for insurance, and if passed as being sound, to brand them with the Society's mark. The valuation in the case of animals which die is entrusted generally to the markers or to a small sub-committee consisting of the marker and two or three committeemen. Practice varies in respect of the carcases of animals which die. A frequent, and certainly the best, plan is for this to be taken over by the society and sold for what it is worth. Generally its value is only what the hide will fetch.

Some clubs have arrangements for an Annual Dinner. These dinners in country villages doubtless have an excellent effect in keeping the members together and bringing all of them at least once a year into direct touch with the affairs of the club. It seems unwise, however, to charge any of the expense of such a dinner to the funds of the club and, in those cases where dinners are held, the members would often be able to insure their animals at a considerably lower rate if they would consent to having a separate dinner fund.

§ 2. DISTRIBUTION.

There are reported to be at least 157 of these societies for the co-operative insurance of cattle. They are distributed over 15 counties, Lincolnshire having the greatest number, namely 56 societies, and the next to being Derbyshire with 21, and Cheshire with 13. Forty-six were founded before 1860 and so have been at work for more than 50 years.

§ 3. THE PREES COTTAGERS' COW CLUB.

It may be the most satisfactory way to convey a good idea of the system on which these clubs work to describe in some detail one of those which is most successful, and the Prees Cottagers' Cow Club has been selected, the particulars which follow being taken verbatim from the publications of the Board of Agriculture. This club is one of the larger clubs, but the general method of working which has here been so satisfactory does not differ in any material way from the system which is followed by the great majority of the clubs.

"It was formed in 1838 and in 1911 it had 179 members and insured 453 cows and 84 calves. During the previous 10 years it had paid insurance compensation on 91 cows and 17 calves, and the average death-rate for that period was 2.1 per cent per annum. In its best year the deaths were only .9 per cent, and in its worst year 3.3 per cent. Until 1910 it paid the market value not exceeding £10 of any insured cow that died from disease or accident, but in that year the maximum payable was raised to £12.

"The members are almost entirely small holders or cottagers. The affairs of the Club are managed by a Committee of seven members, elected annually, and by a Secretary, a Treasurer, and four Stewards. The schoolmaster, who has held the post of Secretary for more than thirty years, receives a small remuneration. The only other charges paid by the Society, besides printing, stationery, etc., were 1s. paid to the Steward on the death of an insured animal, 1s. 6d. paid to an Advisory Committee assembled to value a sick animal, and 1s. 9d. paid to the ordinary Committee when specially summoned and the total expenses of management averaged only £6 9s. per annum, or 3d. per animal insured. Each Steward has an area assigned to him, within which he marks any animal a member may wish to insure in accordance with the rules. He has to satisfy himself that the animal is sound; then he brands it on the horn or hoof with the Society's brand, and enters its description with the name of the owner in his book. When an insured animal falls ill or meets with an accident, the Steward is sent for to value it and to see that all that is possible is done to cure it;

and generally calls in an ex-steward or member of Committee to assist him in his duty. He receives from the owner 3d. for each animal marked, and from the Club 1s. for attendance at each quarterly meeting. There is no difficulty in getting good experienced men to accept the responsible office of Steward, and the valuations are rarely disputed either by the owner or by the Society.

"A member, besides paying an insurance contribution of 1s. per quarter for each cow and 9d. per quarter for each calf insured, formerly had to pay an entrance fee of 1s. for each cow and 6d. for each calf, and an annual subscription of 2d. per animal towards management expenses; so that his total annual payments per cow, after payment of the entrance fee, amounted to 4s. 2d. He is liable to a levy of so much per animal insured, should it become necessary in order to find funds to pay for exceptional losses, but no such levy has had to be made for many years, and with a reserve fund of £1,040 it is very improbable that any levy will ever become necessary. When an insured animal falls ill, the owner must at once call in the Steward, and is bound to use every means in his power for its recovery at his own expense. If the animal dies, the hide and carcase belong to the Society, which has contracted for the sale of all carcases at the price of 15s. each."

In view of its excellent financial position, the Society has recently resolved to remit the contribution from members towards management expenses and to reduce the insurance contributions for cows in the case of members of not less than ten years standing.

§ 4. STATISTICS.

In the accompanying Table of Statistics some of the leading figures are given for a proportion of the clubs in existence, these having been collected by the Board of Agriculture. Many of them are in out-of-the-way villages and the majority are not registered, so that it is difficult to collect complete figures from them. Of the 157 clubs known to be in existence particulars for the year 1913 have been obtained from 89 unregistered and 19 registered clubs and these are given separately in columns 1 and 2. Column 3 contains the average figures for the years 1911-1913 for an average of 88 of the registered and unregistered clubs, taken together. These figures are useful as representing the combined experience of a considerable number of clubs over three years.

Statistics of Cattle Insurance Clubs in England and Wales.

Particulars	1913		1911-12-13 (average of 3 years)
	Un-registered Clubs	Registered Clubs	Registered and Unregistered Clubs
Number of Clubs for which Statistics are available	89	19	88
Total Membership	2,997	1,370	3,804
Total Number of Animals Insured	6,417	4,443	9,882
Number of Animals on which claims were paid	158	92	257
Percentage of Insured Animals which died	2.46	2.07	2.6
Total Amount of Insurance Contributions and Levies	£2,008	£859	£2,540
Average Total Income per Animal Insured	7s. 5d.	5s. 1d.	—
Total Amount paid on Claims	£1,480	£875	£2,324
Average Amount actually Paid per Animal which died	£9 7s. 0d.	£9 10s. 0d.	£9 1s. 0d.
Average Total Expenditure per Animal Insured	5s. 10d.	4s. 6d.	—
Total Amount of Reserve Funds	£7,306	£4,563	£10,357
Average Amount of Reserve per Club	£82	£240	£118
Average Amount of Reserve per Animal Insured	£1 3s. 0d.	£1 0s. 0d.	£1 1s. 0d.
Number of Years Average Losses in hand	4	4 ½.	4

Of the societies reporting at the end of 1913, 10 societies had more than 100 members and several had less than 20, the average over 116 societies being 39 members per Society. They insured an average of 94 cows and calves. Six societies insured more than 300 animals each and several less than 20. The average number of animals insured per member was only 2.5 so it is clear that the great majority of the members must be small men insuring only a few animals apiece.

The largest society and one of the most successful is that at Whixall in Shropshire which was founded in 1842 and now has 298 members, insures 1,395 cows and calves and has a reserve fund of £1,341.

§ 5. REGISTERED CLUBS.

Considerably fuller statistics are available for the registered societies and it may be valuable to study in greater detail the results of their experience for the last three years taken together.

The Casualty Rate. — These societies all pay insurance claims on insured cows or calves which die or have to be slaughtered in consequence of any disease or accident. According to the experience of these three years, for an average number of 4,533 animals, a well managed society in healthy surroundings may expect a death-rate of about 2.4 % per annum.

Amount Payable per Casualty. — The practice of societies in this respect varies considerably. Some pay the full value of the animal at the time it dies or falls ill, subject to a maximum, others only pay a certain proportion of its value, such as five-sixths or four-fifths. From three years experience it appears that a society may expect to have to meet a net loss of about £8 10s. per animal that dies, this being a net loss of 4s. 1d. per animal insured.

Amount of Premium Paid. — For an average over three years of 4,333 animals insured, an average of £916 was received in insurance contributions and levies from members, this being an average of 4s. 1d. per animal insured. That is to say, the income from contributions practically equalled the net loss, leaving as clear profit the interest received from the invested reserve funds.

Management Expenses. — These registered societies are required to keep a separate account of the insurance fund and of their management expenses. Thirteen societies report their cost of management for the year 1913 as £84 of which £62 was spent on salaries. As these societies insured among them 4,033 animals, the management expenses averaged only 5d. per animal per annum. This very small expenditure on administration shows how economically these clubs are managed and is due chiefly to the fact that the members of committee give their time and trouble without remuneration, and that the secretary and markers are content with quite small salaries.

§ 6. MODEL RULES.

As stated at the beginning of this article the Board of Agriculture after studying the system of working of the most successful existing clubs, have now issued sets of Model Rules for the use of those who may wish to form fresh clubs. Alternative sets have been prepared for registered and unregistered rural co-operative cow insurance societies. In accordance with the experience summarised above it is suggested in these rules that

the members should pay an insurance contribution of 5s. per annum and a management contribution of 1s. per annum per animal insured. In return it is considered that a club adopting these rules will be in a position to pay compensation on each insured animal that dies, reckoned at four-fifths of its value at the time it fell ill, up to a maximum of £12 in each case, for it is expected that its average casualty-rate will be, on the experience of existing clubs, about $2\frac{1}{2}\%$ per annum; and the average amount payable per animal which dies, less than £10. If this scale of charges is adopted a new club might hope, with careful management, not only to pay its way but gradually to build up a reserve fund. Such a fund would not only be a safeguard to the members against their ever having to make a levy amongst themselves to meet the losses of exceptional bad years, but might eventually also enable the rate of insurance contributions to be reduced after an adequate reserve had been accumulated.

CONCLUSION.

Various writers on co-operation have, from time to time, laid special stress on the desirability of societies, working on lines such as those on which these English cattle insurance clubs work, to form some kind of a federation amongst themselves, so that not only could the individual members of a society protect themselves against loss by combining with one another, but that the different societies might also club their liabilities together in the same way. It will have been gathered from what has been written in regard to both the cow and the pig insurance clubs that they have been content to carry on their affairs in their own way, without very much regard to other similar clubs which might be in existence, and each to work out for itself its own salvation. No federation exists between the clubs but, since their investigation into the general position, the Board of Agriculture have made arrangements with the Agricultural and General Co-operative Insurance Society for a system of reinsurance of part of the risks of the local clubs. This Insurance Society has its headquarters in London, undertaking farmers' and general agricultural insurance in all parts of the country, and it offers very favourable terms to many local clubs who may care to re-insure part of their risks with a large organisation.

In conclusion, and if anything further is needed to emphasise the benefits conferred on their members by these small cattle insurance clubs, we think we cannot do better than quote the concluding paragraph of an article on the Soham Cattle Club, which appeared in a recent number of the *Journal of the Board of Agriculture*. This is one of the few clubs which also insures horses, but the measure of success which has attended its work over a period of 40 years is very typical of the great majority of these little associations.

"The fact remains that this society of small holders, entirely dependent on its own resources and management, has for many years insured its members' cattle and horses from death by disease and accident from a fortnight up to any age, on payment of an insurance contribution never exceeding 1 per cent. per annum on the amount payable in case of death and of a management contribution of 1s. 4d. per member per annum (equivalent to less than 6d. per animal insured); while, if the members had individually insured their animals with an ordinary live stock insurance company, they would have had to pay as premium at least 7 1/2 per cent. on their dairy cows and 5 per cent. (for animals owned singly) on their farm-horses in the prime of life, while the rates charged on the very young or very old animals, now insured by the Club, would have been prohibitive, and an extra charge would have been made to cover foaling risks. Meanwhile the Club has accumulated a reserve fund, which now amounts to £534. It thus affords an excellent example of the success of the co-operative insurance of live stock, worked by the small stock-owners themselves."

MISCELLANEOUS INFORMATION RELATING
TO INSURANCE AND THRIFT IN VARIOUS COUNTRIES.

FRANCE.

CENTRAL FIRE INSURANCE INSTITUTE OF THE CENTRAL UNION OF FRENCH FARMERS' SYNDICATES IN 1914. — On the 31st. of December 1914 the number of Regional Institutes affiliated to the Central Institute was 15, and the number of local organizations affiliated to them was 2,800 or 109 more than in the preceding year. The amount assured by them was 688,032,013 fr., showing an increase of 87,441,800 frs. and the number of policies was 59,756, showing an increase of 6,417. The average amount assured per local institute was 240,570 frs., as against 218,317 fr. in 1913 the number of policies per local institute was 20.88, as against 19.2 in 1913. Finally, the average amount per policy was 11.52 frs., as against 11.26 frs. in 1913.

The situation of the Central Institute on December 31st., 1914 was as follows:

Share in the risks assured : 146,663,506.81 fr., or 21.32 % of the total as against 21.12 % in 1913. This amount represents annual contribution of a total value of 150,331.87 fr.

The balance sheet for December 31st., 1914 showed the following figures:

Credits.

General Society, Capital in Deposit	2,728 61
Savings Bank.	13,628 91
Bank of Burgundy and Franche Comté.	420 -
Bank of the South East.	1,098 01
Securities in Deposit (Purchase Price).	123,715 61
South East Mutual Credit Institute (Current Account)	23,045 21
" " " (Loans Account)	52,625 51
Balance Due on Interest Account, 1914	360 -
	<hr/>
	218,221 41

Debits.

Regional Institutes	23,772.22
Staff	1,475.—
Provision to meet Claims in Course	7,200.—
Regulation Reserve Fund	30,000.—
Floating Reserve Fund	60,168.60
Reserve Fund to meet Fall in Value of Securities.	8,025.—
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	130,640.82

Credit Balance for the Year: 87, 580.61 fr.

The Profit and Loss Account for the year 1914 showed the following figures:

Revenue.

Contributions for the Year.	147,093.01
Interest on Deposits.	6,317.42
	<hr/>
	153,410.43

Expenditure.

Claims of the Year	52,942.21
Claims of Preceding Years	141.14
Costs of Inspection	348.90
General Expenditure	5,197.57

Provision to meet Claims in Course:

Regional Bank of the East.	6,000	}	7,200.—
Regional Bank of Burgundy and Franche			
Comté	100		
Pyrénées and Landes Regional Bank	1,100		
			<hr/>
			65,829.92

Credit Balance for the Year: 87,580.61 fr.:

Of this 25 % or 21,895.15 fr. was placed to the reserve funds of the Central Institute, and 75 % or 65,685.46 fr. was returned to the regional banks as rebate in proportion to the gross amount of their contributions. The amount of 21,895.15 fr. placed to the reserve funds was divided as follows:

- 1°. To the Floating Reserve Fund 10,000.00 frs.
- 2°. To the Reserve Fund to meet Fall in Value of Securities 11,895.15 frs.

Consequently, the amounts of the various reserve funds reached the following figures :

Regulation Reserve Fund.	30,000.— fr.
Floating Reserve Fund.	70,168.60 „
Reserve Fund to meet Fall in Value of Securities .	19,920.15 „

As the amount of the contributions to the Central Institute increased in 1914 to 147,093.01 fr. and its proportion of the losses through claims (including appraisers' expenses) was 52,942.21 fr., the proportion of these losses to the contributions was 35.99 % as against 29.6 % in 1913. (Taking into account the provision to meet claims in course, the percentage rises to 40.88).

(Summarised from the *Bulletin de l'Union Centrale des Syndicats des Agriculteurs de France*, July, 1915).

SWITZERLAND.

CO-OPERATIVE HORNED CATTLE INSURANCE SOCIETIES OF THE CANTON OF TICINO. — In 1914, the Co-operative Horned Cattle Insurance Societies, subventioned by the Canton and the Federation, were 48 in number as against 44 in 1913. The number of head of cattle insured was 3,093, and their value 2,099,474 frs. The premiums paid amounted to 26,718 frs. and the grants from the Canton and the Federation together amounted to 10,622 frs.

In a number of more than 3,000 head, insured in round numbers for 2,000,000 frs., there were 194 cases of death, for which 33,729 frs. were paid in claims, the total estimated value of the cattle dying being 58,383 frs.

Besides the claims on account of death, there were 15 cases in which claims were paid for depreciation in value, amounting altogether to 607 frs.

The premiums vary from 1 fr. to 3 frs. per cent of the assured amount. We may say that the average premium is about 1.50 frs. per cent. of the value assured. The expenses are thus insignificant, above all when we remember that private insurance societies charge from 10 frs. to 15 frs. per head of cattle. Insurance in these co-operative societies never costs so much.

(Summarised from the *Agricoltura Ticinese*, Locarno, May 15th., 1915).

Part III: Credit

ARGENTINE REPUBLIC.

THE NATIONAL AGRICULTURAL BANK.

SOURCES:

- EL BANCO AGRÍCOLA DE LA NACIÓN (*The National Agricultural Bank*). *Revista de Economía y Finanzas*, N. 9. Buenos Ayres, July 5th., 1915.
- EL PROYECTO DE BANCO AGRÍCOLA: ALGUNAS OBSERVACIONES (*The Proposed Agricultural Bank: Some Remarks*). *La Argentina Económica* No 115. Buenos Ayres, July 11th, 1915.
- FERRS (Emilio): El Banco Agrícola: Proyecto de ley (*The Agricultural Bank: Bill*). Buenos Ayres, 1915. Imprenta P. Gadola.
- DO.: Banco Colonizador de la Nación Argentina: Proyecto de ley (*The Argentine National Colonisation Bank: Bill*). Buenos Ayres, 1915. Imprenta P. Gadola.
- MENSAYES Y PROYECTOS DE LEY DEL PODER EJECUTIVO NACIONAL, 1911 (*Memoranda and Bills issued by the National Executive Authority, 1911*). *Boletín del Ministerio de Agricultura*. Supplement to the issue of June 1911. Buenos Ayres.
- THE ECONOMIST, Nos. 3,754 and 3,757. London: August 7th. and 28th., 1915.
- LA NACIÓN. Buenos Ayres, July and August, 1915.

In the Argentine Republic, a country predominantly agricultural and still in process of colonisation, the want has long been noted of some organisation, either official or private, which, by providing the farmer with credit, would help him to play his part in the development and encouragement of the agricultural industry. Of this we have already had occasion to speak several times in this *Bulletin*, and, accordingly, we shall not repeat what we have said on those occasions (1).

It will suffice to remind the reader that one of the principal causes of the agricultural depression which for some time past has been noted in

(1) See the issues of August 1911; April and June 1912; July and October, 1913, and June 1915.

the country, is the want of circulating capital, especially amongst the farmers, aggravated by a defective credit system. Direct agricultural credit, it may be said, does not exist. Between the farmer and the bank there is a series of intermediaries — foresters, warehousemen, etc. — whose methods in the end affect the crop, since they form a system of usury, which ruins the farmers in bad years.

The National Agricultural Bank, which has just been established with the object of providing a suitable organisation for agricultural credit and of furnishing the farmer at moderate rates with the circulating capital which he requires, will, to this extent, supply one of the needs most strongly felt by the rural population of the Argentine Republic.

Before proceeding to describe the organisation and objects of this new credit institution, it will be desirable to indicate briefly the proposals which preceded it, in order to be able to compare the principles followed in those proposals with those upon which the newly-established organisation has been based.

§ 1. PREVIOUS BILLS AND THE BANK ESTABLISHED.

Notwithstanding its importance, it may be said that the question of agricultural credit did not begin to be discussed by the public authorities until the year 1899. The Ministry of Agriculture had been established the year before by the Convention which revised the constitution of the Republic, and Dr. Frers, who was the first Minister of Agriculture, appointed a Commission to study agricultural credit guaranteed by pledge or personal security, the establishment of co-operative societies or companies for the purpose of providing it, and the amendment and extension of the legislation relating to the matter.

From that time onwards various bills have been submitted to the discussion of the Argentine Parliament, with a view to finding the precise form of rural credit most suitable to the conditions of the country. Amongst these deserve to be mentioned that of Senator Uriburu on rural credit societies, that of Sr. Vivarés for the establishment of a Rural Bank, those of Srs. Lahitte and Martínez on co-operative societies, and particularly those presented by the ex-minister, Sr. Lobos, and by Sr. Frers (of whom we have spoken above) on the establishment of an Agricultural Bank.

But in tracing this slight sketch of the parliamentary efforts in favour of agricultural credit, it is necessary to mention also, besides the bills noted, the two acts of 1914 on warrants and agricultural pledge (1). By these in view of the urgency of the question of agricultural credit and of the fact that, on account of the difficulties involved in putting them into execution or for political or administrative reasons, none of the bills aiming at the creation of a general organisation for rural credit had been passed into law

(1) See the issue of June 1913 of this *Bulletin*.

The Public Authorities decided to introduce the system of warrants and agricultural pledge, based on the goods and industrial values at the farmer's disposal, in order to stimulate the flow of private capital until such time as a special fund might be available for supplying agricultural credit.

It will be seen, then, that in the short space of sixteen years the Argentine Parliament has been fertile in private members' bills proposing to solve the question in a general manner by various methods (rural credit societies, central banks, etc.) and that finally the Public Authorities, not being able to solve the question as a whole in a manner befitting its urgency, took measures which might, at any rate, improve the position of rural credit business.

Though suggested by the previous proposals, the institution proposed by Senator Davila and approved by Parliament has the special characteristic, upon which depend its form and organisation, of being a State institution.

The Bank proposed in 1913 by Sr. Frers (whose bill was one of the most complete) would have had a capital of 100,000,000 pesos, divided into 2,000,000 shares of 50 pesos each. The State was to subscribe half of these shares, the other half being open to subscription by private capitalists; thus the undertaking would have found itself obliged to offer a dividend and to watch carefully the prices at which its shares were quoted.

This organisation, therefore, was subject to two serious defects, which would have paralysed the efficiency of its working — in the first place, the impossibility of obtaining private capital, absorbed by more profitable investments, and secondly, the too direct influence of the general money market on agricultural credit.

Thus, then, in laying down the lines of the Bank now established, it has been endeavoured to avoid, as far as possible, any such causes of difficulty. Above all, it has been thought desirable that its functions should be in harmony with the requirements of the industry, which it was not only to serve, but to support and encourage. In attempting to organise rural credit, it was not, therefore, a question of promoting a private banking business, a form of credit transactions, the lending of capital for a given industry, but of providing for the development of that industry, enlarging its sphere of action and increasing its profitability. Thus, then, the proposed Bank was to have for its object the development, by every means, of the agricultural and stock-raising industries, and not that of the banking business.

Accordingly, both by reason of the purpose of the institution and on account of the necessity of removing it from the influence of the fluctuations of other kinds of credit, always dependent upon the conditions of the foreign markets, it was thought fit that the Bank should be established with the character of a State institution, as we shall now see.

§ 2. OBJECT AND ORGANISATION OF THE NATIONAL AGRICULTURAL BANK

The National Agricultural Bank will have as its principal objects: (a) to encourage the agricultural and stock raising industries and colonisation (1); (b) to promote the organisation of rural co-operative credit societies and agricultural banks in the provinces and national territories entering into credit relations with these institutions in order to facilitate the development of the operations which form their object. Colonisation will be carried out by the division of lands and their assignment to applicants by sale or on lease.

As general operations of the Bank, the following are indicated:

(1) To discount the bonds of rural co-operative credit societies and agricultural banks; such discounts to be for a period not longer than three years and at a rate to be agreed upon.

(2) The Bank alone will be empowered to discount agricultural or stock-raising credit instruments presented and endorsed by the institution which maintain commercial relations with it.

(3) To make loans on mortgage or personal security to farmers and stock-owners, for periods to be agreed upon and at such rates of interest as the Directors may decide.

(4) To grant loans on agricultural warrants or any instrument representing an agricultural or stock-raising pledge (2).

(5) To receive deposits on current account and accept drafts or other payment orders, home or foreign.

(6) To co-operate in the colonisation which the provinces may undertake on the basis of the programme of the Bank, and in accordance with the agreements which it may make with their respective governments.

(7) To undertake the colonisation of the public lands which the Executive Authority may assign to it upon its request.

(8) To issue bonds with the authorisation of the Executive Authority.

(1) Unlike the institution now created and that proposed by Dr. Lobos, whose bill is considered one of the best of the private members' bills, the Bank proposed in 1913 by Sr. Frers would not have included colonisation amongst its objects, this being a function which its author proposed to entrust to another institution (Bill on Argentine National Bank of Colonisation, Journal of the Sitzings of the Chamber of Deputies, 1912, Vol. II, page 186). On this point Sr. Frers expresses himself as follows: "I consider that it is a very grave error to combine in one undertaking a credit institution and a colonisation institution. An agricultural bank and a bank of colonisation have no feature in common except the commercial nature of the constitution. The one is an institution supplying strictly banking credit; its programme is limited to that. The other can only be called a bank in virtue of the form of its organisation; its programme has to be of an extraordinary complexity." Although these arguments were justified inasmuch as the bank proposed by Sr. Frers was strictly commercial and lost some of their force as applied to the Bank now established, which is a State institution for the encouragement of agriculture, practical experience will show to what extent these views were correct.

(2) See the issue of June 1915 of this *Bulletin*.

The capital of the National Agricultural Bank will be formed by:

- i) the sum obtained by the issue, to be made by the Executive Authority, of 50,000,000 pesos of public funds at 5 % interest with 1 % sinking fund;
- ii) the transfer to it of the real property forming the assets of the National Bank (in liquidation) and the sums resulting from the sale or lease of it;
- (1) In analysing the constitution of the new Bank, some organs of the economic press of the country do not hide the fact that they have little confidence in the result of the loan mentioned, pointing out that it is being issued at the modest rate of 5 % in a market where money costs 8 % and mortgage-bonds at 6 % already exist.

The law which creates the Agricultural Bank at the same time authorises the Argentine National Bank to open a credit in its favour up to 10,000,000 pesos to enable it to begin operations, on the security of an equivalent quantity of bonds of the issue of which we have spoken. The conditions of this guarantee, as well as the rate of interest to be charged upon this credit (which must not exceed 4 % per annum) are to be fixed by agreement between the directors of the two institutions and with the approval of the Executive Authority.

The Agricultural Bank will be administered by a President and six directors, nominated with the approval of the Senate. The President will enjoy a fixed salary and the Directors will be paid fees proportionate to the number of their attendances in each month. All will be personally and jointly liable for the operations of the bank which they authorise and they will form the Board of Directors of the Bank. Besides its administrative functions this Board of Directors will have the following attributes and duties:

- (1) To promote the formation in the provinces and national territories of co-operative credit societies (rural credit societies, agricultural banks), whether local or regional;
- (2) To inspect such institutions and inquire into their rules;
- (3) To provide them gratuitously with such publications and information as may be necessary regarding their organisation, etc.;
- (4) It will be empowered to utilise the credit societies and regional banks which work in accordance with these arrangements, as its own agents in the localities where there are no branches of the Agricultural bank.

Besides the ordinary forms of leasing and sale, the Bank will be empowered to lease colonisation lots for a period of 10 years under the following conditions: (a) the lessee will undertake the cultivation and exploitation of

(1) The National Bank, as well as the Bank of the Province of Buenos Aires and the Mortgage Bank of that province, failed on the occasion of the shock produced by the Revolution of 1890, owing to defects in its organisation and management. The rapid increase in the value of land in the Argentine of late has caused the liquidation of the old National Bank to result in a surplus. The real property which forms this surplus, and the sums resulting from the sale or lease of it, are to form part of the capital of the Agricultural Bank with which we are dealing.

the lot, on such conditions as the Directors may determine, under penalty of the rescission of the contract; (b) during the term of the contract, the lessee will not be able to assign his rights without the previous authorisation of the Directors; (c) the accumulation of lots will be prohibited except in the case of inheritance; (d) the rent payable under the lease shall in no case exceed 7 % of the value which the Directors may assign to the land in the deed of contract; (e) on the expiry of the contract the lessee shall have the option of extending it for ten and five years successively; if the Bank should have decided to sell the lot, the lessee shall have a preferential right to buy it.

The Bank must establish a branch in the capital of each province and in such other places as the Directors may think desirable.

The law by which it is established provides that the State shall be directly liable for all the deposits and the operations carried on by the Agricultural Bank.

Finally all the operations and contracts to which the Agricultural Bank is a party will be exempt from stamp duty, whatever their nature or the value involved; in like manner, the Bank will be exempt from the payment of all national, provincial or municipal taxes. The same privilege will be enjoyed for 10 years by the rural credit societies, co-operative credit societies and agricultural banks.

ITALY.

THE WORK OF THE SPECIAL AGRICULTURAL CREDIT INSTITUTES IN 1914.

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In the present article we shall consider the work done in 1914 by the special agricultural credit institutes, that is to say by the Institutes of regional character authorized by special laws for the granting of this form of credit. The most important of these laws are those of July 7th., 1901, authorizing the savings bank of the Bank of Naples to grant agricultural credit in the Southern Provinces of the mainland of Italy and in Sardinia, and that of March 29th., 1906, which instituted a department for the grant of such credit in connection with the Bank of Sicily. We may also mention the laws of December 21st., 1902, March 31st., 1904 and June 25th., 1906, relating respectively to agricultural credit in Latium, Basilicata and Calabria, etc.

The fundamental principle of this legislation is that agricultural credit is not granted directly to the farmers but through minor local institutes, and by preference institutes of co-operative form, styled in consequence *intermediary organisations* (rural and agricultural banks, agricultural consortiums, people's banks etc.).

Exception is only made in the case of those communes, in which there is no local institute or in which the institute existing does not inspire confidence, or is not working: in such communes indeed loans may be granted with due precautions, to farmers directly.

Italian legislation has followed this system, on the reasonable supposition that only *local institutions* possessing immediate knowledge of the men and the circumstances are in a position to estimate the financial situation of each farmer, especially of the small farmers and, what is of greater importance, to see that the amounts lent are really employed for purpose of agriculture.

Therefore the special agricultural credit institutes carry on active propaganda for the foundation of intermediary organizations, endeavouring to ensure their good working by means of the distribution of model rules of guides to bookkeeping and inspections. The rural banks, large number of which have been founded in recent years in the South of Italy and in the islands, are a result of this propaganda (1). When we show the results of the agricultural credit business in 1914, we shall have an opportunity of pointing out the progress made by them in various regions.

§ 1. THE SAVINGS BANK OF THE BANK OF NAPLES.

The report on the agricultural credit business of the Bank of Naples shows in the first place the continual increase in the number of intermediary organizations; in fact they increased from 1,750 in 1911 to 1,855 in 1912, to 1,963 in 1913 and 2,080 in 1914; but the number of those considered "good", that is to say that can be relied on for this delicate form of credit business, increased during the same period from 868 to 938, and then to 1,044 and to 1,149. These latter may be classified as follows:

(1) The second part of the above report of the savings bank of the Bank of Naples expressly deals with the results obtained by the propaganda in favour of the foundation and organization of the intermediary institutes. The Board provides for this uninterruptedly by means of its own functionaries, and particularly by means of a special inspector, and, in spite of the lack of the spirit of association, of the ignorance of the agricultural majority, of difficulties and scepticism, the results are satisfactory. Last year 73 new agricultural banks were founded in the provinces of the Southern mainland and 46 in Sardinia: altogether 119. Between August, 1909, when the Bank sent out the new model rules for this class of institute, and December 31st., 1914, 396 new agricultural banks have been founded, 242 in the Southern mainland provinces and 154 in Sardinia. In 1914, 24 intermediary institutes were inspected, namely 9 agricultural consortiums, 13 agricultural and rural banks and 2 agricultural loan banks.

Agricultural and Rural Banks	415
Monti "frumentari" and "nummulari" in Sardinia . .	288
People's Banks	158
Agricultural Consortiums	130
Agricultural Loan Banks	116
Savings Banks.	15
Mutual Aid Societies.	10
"Monti frumentari"	8
Independent Provincial Agricultural Credit Banks . .	6
Agricultural Credit Societies	3

1,149

Of these 1,149 "good" institutes, 130 (120 of which are People's banks) have credits open to them at the Bank for their ordinary discount business; and as many as 406 are associations with unlimited joint and several liability, largely owing their origin to the assiduous propaganda of the Bank for the constitution of agricultural banks, and scattered all over the Southern provinces and Sardinia: the province of Cagliari comes first with 124 banks, next comes Aquila with 47, then Salerno with 34 and Catania with 32.

At the end of 1914, 687 institutes had been registered in the register: credits opened, for 26,003,600 frs.; 244, registered for 6,953,000 frs., including agricultural and rural banks, 148, registered for 7,352,000 frs., people's banks and 93, registered for 8,184,500 frs., agricultural consortiums.

The loans made by the Bank in the above year, not including renewals, amounted to frs. 13,934,159 (3,941,820 frs. out of its own funds and 992,340 frs. out of those of the provincial agricultural credit banks). The total amount of rediscounts was 10,933,853 frs., that of the direct loans to farmers 565,758 frs. and the direct discounts for intermediary institutes amounted to 2,434,548 frs. (1).

In thirteen years the agricultural credit department of the Bank of Naples' Savings Bank had distributed 74,000,000 frs., 44,000,000 frs. (58.82%) through agricultural consortiums and 16,000,000 frs. (22.38%) through agricultural banks.

In spite of the difficulties presented by the financial market, the rate of interest has remained unvaried, at 3 ½%, for the rediscount and direct discount business transacted with the intermediate societies and at 4% for business transacted directly with farmers: the intermediate institutes, for their part, in granting loans have charged interest varying from 3 ½% to 5%, most usually 5% and 5 ½%.

(1) With regard to the classification of the credits, it is enough to say that, out of 23,915 loans, 791 were for amounts less than 100 frs.; 11,107 for amounts between 100 and 500 frs., and 1586 for amounts between 500 and 1,000 frs.: that is 91% of the loans and 55% of the total

The rediscounts and direct loans may be classified as under, according to their object :

1. *Loans with Legal Preference.*

	Number	Frs.
For Harvest	522	286,849.20
» Cultivation	7,448	2,880,169.37
» Seeds	3,908	2,454,144.59
» Manure	3,656	775,771.71
» Anticryptogamic Material	2,246	283,280.26
» Food for Metayers and Labourers	26	4,718.85
» Various Purposes	2,386	1,280,693.73
	20,192	7,965,567.71

2. *Loans without Preference.*

	Number	Frs.
For Large Livestock	2,434	1,707,432.56
» Small Livestock	359	109,785.56
» Machinery	622	209,241.12
» Farm Implements	87	16,037.40
» Dead Stock	34	16,295.10
» Various Purposes	15	12,802.40
	3,551	2,071,594.00

3. *Loans with Preference by Agreement.*

	Number	Frs.
For Large Livestock	2	4,000.00
» Machinery	7	7,993.45
	9	11,993.45

4. *Loans on Deposit of Agricultural Produce.*

	Number	Frs.
On Cereals	150	1,375,015.99
On Wine	13	75,440.00
	163	1,450,455.99

The loans with legal preference represent 69.27 % of the total credit granted to the farmers; those without preference, 18.02 %, those with preference by agreement, 0.9 % and those on deposit of agricultural produce, 1.1 %.

Of the loans 13,607 for 6,109,991.59 frs. (53.13 %) were granted to producers working their farms; 9,079 for 5,053,733.46 frs. (43.95 %) to tenants; 846 for 186,108.61 frs. (1.62 %) to tenants by emphyteusis and 383 for 149,777.54 frs. (1.30 %) to metayers.

The direct discount was given in 254 cases, to the amount of 1,889,597 for collective purchases, in 14 cases, to that of 206,237 frs., for collective and in 135 cases, to that of 338,714 frs., to make up the capital of the intermediary organizations; almost all on the proposal of the agricultural organizations and rural banks, in the proportion of one third and two thirds actively.

Finally, the total credit granted in 1914 by the Savings Bank of the Kingdom of Naples was distributed among the various provinces as follows :

Credit Granted to each Province in 1914.

	Amount — Fr.
Foggia	4,842,846.66
Aquila	1,210,542.76
Bari	1,143,001.86
Caserta	1,090,009.98
Lecce	786,736.15
Sassari	755,274.26
Salerno	739,946.73
Teramo	691,861.14
Reggio	527,201.00
Campobasso	420,000.79
Catanzaro	372,415.85
Potenza	274,118.15
Benevento	219,584.08
Naples	208,925.05
Chieti	191,025.61
Cagliari	186,011.76
Avellino	185,249.30
Cosenza	89,408.27
	<hr/>
	13,934,159.40

Thus the work of the Naples Bank in connection with agricultural credit in 1914 was rather considerable and beneficial, in bringing relief to farmers in the South and in Sardinia, who had suffered from the prolonged drought that in certain agricultural regions had led to exceptional losses.

§ 2. THE AGRICULTURAL CREDIT DEPARTMENT OF THE BANK OF SICILY.

As we know, the grant of agricultural credit in Sicily is entrusted to special department of the Bank of Sicily, which transacts this business like the other institutes of the same character, through the medium of other organizations.

Of these intermediary organizations on December 31st., 1914, there were 335 (against 233 in 1913). We may classify them as follows:

Co-operative Agricultural Societies for Production and Labour	133
Agricultural Banks (Societies)	91
Agricultural Banks (Incorporated Bodies)	8
Rural Banks	47
Agricultural Consortiums	20
"Monti Frumentari"	12
Agricultural Banking Institutions	11
People's Banks	4
Agricultural Associations	7
Co-operative Wine Societies	2

335

On December 31st., 1914, these organizations had 58,719 members, the assets of the organizations amounted to 3,673,711 frs. and the assets of the members, whose liability was unlimited, to 283,501,778 frs. The vast majority (270) are societies of collective title. Among the co-operative societies for production and labour, as many as 50, at the end of the year were working collective farms, leasing an area of 42,449 hectares.

It will be interesting to consider how the agricultural credit organizations are distributed in the island. The following table shows the number of the intermediary institutes receiving credit in the different Provinces in comparison with the number of communes.

Provinces	Communes in the Province	Number of Organizations Receiving Credits
Palermo	76	62
Messina	97	28
Catania	50	24
Caltagirone	13	24
Girgenti	41	62
Trapani	20	54
Syracuse	32	31
Caltanissetta	28	50
	357	355

Of the 190 communes among which the 335 institutes registered in the register for credits opened were distributed, 99 had each only one intermediary institute, 63 had two, 18 had three, 6 four, 2 five and one had six and another thirteen.

The credits opened by the Bank to these organizations increased from 27,880,218 frs. on December 31st., 1913 to 18,579,500 frs. on December 31st., 1914. The loans made were 39,286 and their amount was 13,746,159 frs., showing a decrease on the previous years, in the number of loans, of 9,426, and in the amount, of 1,882,471 frs.

This decrease is the result of a succession of bad harvests in the island in recent years; the consequence has been a certain delay in payments, a tendency to renew loans in their entirety and to unite several loans in one transaction; thus altering the character of the agricultural credit business profoundly. With the object of preventing these irregularities, the Bank has become stricter in its dealings with the intermediary institutes, and this limitation of the amount of business done has been the consequence.

The direct loans to private persons were 125 and amounted to 52,075 frs.; the operations conducted with the intermediary institutes were 39,161 for an amount of 13,694,085 frs. (rediscounts to the amount of 9,734,465 frs. and direct discounts to that of 3,959,620 frs.).

The direct and indirect transactions we may distinguish as follows in regard to their object: I. for seeds, manure, anticryptogamic material, cultivation and harvesting, 38,004 transactions for an amount of 9,276,529 frs.; II. for machinery, implements, live and dead stock, 885 for 510,011 frs.; III. direct discounts for intermediate organizations, 397 transactions for an amount of 3,959,620 frs.

In regard to the profession or condition of the borrowers, the loans may be classified as follows:

	Number	frs.
Landowners	19,086	4,887,658
Tenant farmers	18,104	4,445,344
Metayers	965	249,031
Tenants by emphyteusis	734	204,506

In 1914 the rate of discount charged by the agricultural credit department was 4 %, while the intermediate institutes generally charged 6 %. The average amount of the bills discounted was 349.89 fr. as compared with 320.83 frs in 1913.

The various provinces shared as follows in the total credit granted in the year:

Provinces	Amount — frs.
Trapani.	2,857,712
Palermo.	2,372,194
Caltanissetta	2,133,100
Girgenti.	1,883,491
Caltagirone	1,856,195
Syracuse	1,590,084
Catania	648,819
Messina.	402,564
Total . . .	13,746,159

The above summary shows how the assistance granted to Sicilian farmers by the Bank of Sicily is in strict conformity with the duties entrusted to that important Institute by the law.

§ 3. OTHER SPECIAL AGRICULTURAL CREDIT INSTITUTES.

The operations of the other special agricultural credit institutes working in Italy in the year 1914 may be seen in the following table. To make it complete we have included in it also the figures above given for the Banks of Naples and Sicily.

Agricultural Credit Granted in 1911 in Italy in accordance with the Regional Laws

Balance of Loans at the End of 1913	Name of Institute	Loans to Intermediate Institutes	Direct Loans to Farmers	Total	Balance of Loans at End of 191
4,026,380.32	Bank of Naples, { out of its own Funds	3,861,119.82	80,700.00	3,941,819.82	3,211,815.46
3,859,378.95	{ out of Funds of the Provincial Banks	9,597,281.73	485,057.85	9,992,339.58	6,412,793.55
6,729,837.38	Bank of Sicily { out of its own Funds	8,395,924.58	23,575.00	8,329,499.58	5,192,425.88
3,913,561.45	{ out of Funds of the Provincial Banks	5,388,166.20	28,500.00	5,416,666.20	4,168,712.84
2,387,723.47	Agricultural Credit Institute for Latium	5,195,827.80	864,439.15	6,060,266.95	2,586,870.39
348,827.50	Agricultural Credit Institute, Vittorio Emanuele III — Catanzaro	29,000.00	397,579.50	417,579.50	569,922.00
599,786.27	Agricultural Credit Institute, Vittorio Emanuele III — Cosenza	5,000.00	611,393.60	616,393.60	743,838.42
461,610.00	Agricultural Credit Institute, Vittorio Emanuele III — Reggio Calabria (1)	59,000.10	313,205.00	366,205.10	518,305.00
2,060,892.65	Cagliari "Ademprile" Bank	2,644,576.60	124,243.00	2,768,813.60	3,113,597.92
2,199,926.89	Sassari "Ademprile" Bank	1,604,662.11	1,011,289.11	2,615,951.22	2,951,276.48
1,595,659.45	Provincial Agricultural Credit Bank for Basilicata	1,161,953.13	1,283,490.70	2,445,443.83	2,505,246.04
-	Provincial Agricultural Credit Bank for Liguria	156,225.29	-	156,225.29	155,549.42
28,062,684.44	Total	37,993,725.36	5,223,472.91	43,127,198.37	32,160,263.40
	Total for the Year 1913			39,796,980.67	
	Balance in favour of 1914			3,330,217.60	

(1) The figures for the Agricultural Credit Institute, Vittorio Emanuele III, Reggio Calabria, are those for 1913, as those for 1914 are not to hand.

There are two other organizations we must mention, the Agricultural Credit Federations for Marche and for Umbria. These Federations were founded in accordance with law n° 7 of January 2nd., 1910 on agricultural credit for Marche and Umbria, with the duty of administering the funds assigned by the law for the grant of agricultural credit in those regions, amounting as we know to 700,000 frs. for Marche and 400,000 frs. for Umbria. But we have no information in regard to the work done by the Federation of Marche, though, with regard to that of Umbria, we know that of the 14 agricultural banks existing in the region, 10 had granted subventions in the form of bills to the amount of 74,354 frs. on December 31st., 1914 (against 28,543 frs. granted by 5 Banks in 1913).

In conclusion, in 1914, more than 43,000,000 frs. or about 3,500,000 frs. more than in 1913, were lent to the Italian farmers by the special agricultural credit institutes alone.

MISCELLANEOUS INFORMATION RELATING TO CREDIT
IN VARIOUS COUNTRIES.

ALGERIA.

APPLICATION OF THE FRENCH LAWS ON INDIVIDUAL AGRICULTURAL CREDIT TO ALGERIA. — Three Decrees bearing date of March 25th., 1915 make the French laws on long individual agricultural credit applicable to Algeria, with the following reservations:

(a) The local and regional mutual agricultural credit banks desiring to conduct or facilitate long term individual credit business, must, at the date of presentation of their application for advances from the State, have already existed for at least twenty years and must be expressly authorized in their rules to conduct such business.

(b) The object of the loans shall be to facilitate the purchase, installation, transformation and reconstitution of small farms belonging to French owners or to French subjects, only in the case of farms subject to French law.

(c) The local credit banks granting individual long term loans may require from the borrowers, in addition to the security for which provision is made (opening of mortgage credit or life insurance policy), any other security they shall judge necessary, especially when the farms for which the loans are required have been converted into undistrainable homesteads.

(d) The conditions for repayment shall be established by the regional banks which shall take account of the yield from the various kinds of operations for which the loans are granted, and repayment shall be made in annual instalments.

(e) The refunds received by the local agricultural credit banks shall be paid over by them to their regional banks within a week from collection. The regional mutual agricultural credit banks shall in their turn pay into the Treasury, before the end of January, the amounts refunded to them in the preceding year. The special advances obtained by these banks must be fully repaid at the end of the twentieth year.

(f) These special advances made by Government to the regional banks may never amount to more than twice the share capital of the banks.

ITALY

NEW PROVISIONS FOR AGRICULTURAL CREDIT. — In the number of the Bulletin for January last we dealt with an important Decree no. 1,089 of October 11th., 1914, by which the Italian Government arranged temporarily to assist certain Institutes (ordinary savings banks and co-operating credit societies) in their agricultural credit business during the whole of 1915. Recently, the Government, in consideration of the necessity of extending the functions and facilitating still further the work of the agricultural credit institutes, by Decree of the Viceroy, no. 961 of June 17th., 1915, has extended the operation of the above Decree to December 31st., 1916, issuing the following new provisions :

The special preference claim conferred by art. 1,958, no 5 of the Italian Civil Code in connection with amounts due for seed and agricultural work and harvesting, on the profits of the harvest, is extended to these for manure, anticyptogamic material, remedies or insecticides, implements for ploughing and the manipulation and preservation of agricultural produce and the first treatment of this produce ; and in case of there being no harvest it shall extend to the next year's harvest.

This preference claim shall take precedence, in the order fixed by art. 1,960 of the Civil Code, immediately after that for credits for seeds.

In addition, the Institutes of issue are authorized to rediscount the bills and acceptances of the agricultural credit institutes created by special laws, the Institutes authorized by Royal Decree no. 1,089 of October 10th., 1914, as well as of the Unions and Federations of Agricultural Societies legally constituted according to the principles established by order of the Treasurer and the Minister of Agriculture, Industry and Commerce.

The rate of this rediscount shall be 1 % less than the official rate of discount.

The bills of the above Institutes may run even for more than four months, but not for more than six.

In addition, for the whole of 1916, the Minister of Agriculture, Industry and Commerce shall have power to authorize by Decree the immediate opening of geneal warehouses for agricultural produce or other goods.

The Institute of Agricultural Credit for Liguria (1) in Porto Maurizio is also authorized for the whole of 1916 to grant direct loans to farmers for periods of not less than three years and amounts of not more than 3,000 frs. to landowners in Liguria in order to provide their farms with drinking water and water for irrigation purposes and to change their methods of farming. The Institute may devote a total sum of not more than one fifth of its available funds to this work.

(1) See the article : " Agricultural Credit in Marche, Umbria and Liguria ", published in the number of this Bulletin for June, 1915, pp. 77 et seqq.

Finally, the Institutes of agricultural credit created by special laws are authorized to purchase agricultural machines for lease or sale to the *comuni frumentari* of Sardinia, Basilicata and Sicily, agricultural consorzioms, rural and agricultural banks, or even to individual farmers or associations of farmers.

The sale may be on credit. In that case the Institute shall be guaranteed by a preference claim on the machines to take precedence of any other.

The same preference rights in favour of the Institutes of agricultural credit granting subsidies shall form a charge upon agricultural machines purchased by means of credits granted for the purpose to the above mentioned organisations and farmers.

ROUMANIA.

RURAL LAND CREDIT IN 1914. — The Board of Management of the "Premier Roumanian Land Credit Society" has published a report of the situation and work of this society in 1914, from which it appears that the four years 1910-1913 formed the most prosperous period for Roumanian agriculture. As the economic life of Roumania is almost entirely dependent on the agricultural production, it is easy to explain the prosperity of recent years. The yield from the harvest necessarily influences the revenue from taxation and export dues.

After the peace of Bucharest which extended the territory and the prestige of Roumania, there followed a period of tranquillity, allowing of a more rapid economic advance and the realisation of a series of important agricultural reforms. At the end of May and the beginning of June, 1914 rust had considerably damaged the barley and oat crops and to some extent threatened the wheat harvest, which was only 8 hl. the ha., with an average weight of 73 kg. per hl., while in the preceding years the average yield had been 17 $\frac{1}{2}$ hl. the ha., weighing 77 $\frac{3}{4}$ kg. per hl. In spite of the high prices paid for wheat and other cereals in 1914, most of the farmers, as they had neither reserve funds nor credit, were obliged to sell at low rates, so that it was certainly not the farmers who profited by the enormous rise in prices due to the present war, but rather a whole series of speculators.

On account of the war, the financial crisis has become more and more acute. The closing of the Dardanelles, the difficulty of importing the materials required for industry and commerce and the excessively high rate of exchange for payments abroad, have contributed to raise the price of industrial products, while, at the same time, in consequence of speculators monopolising the grain, the cost of living in the towns has risen extraordinarily. The Banks also have suspended the credits of which formerly they were too lavish. At present all feel the need of money, although the money circulation is larger than in the past, even in the most prosperous

years. Actually in 1913, the total circulation (gold, silver, nickel and bank notes) was 528,585,275 frs. ; whilst at the end of 1914 it was 675,644,979.50 frs. so that in 1914 it was 146,000,000 frs. more than in 1913. The banks, though more prudent in granting credits, have not diminished their business, as the following figures show, which represent the bills and acceptances and the anticipations on deposit and on mortgage of the 43 principal banks of the country on December 31st., of the two years 1913 and 1914.

December 31st., 1913	1,149,700,000 frs.
" 1914	1,229,700,000 »

showing a difference of about 80,000,000 frs. in favour of the second year. Consequently loans have increased, and this is largely due to the landlords. Why then, it will be asked are payments effected with such difficulty? On December 31st., 1911, the arrears of instalments due to the rural land credit society amounted to 6,412,528 frs. ; on December 31st., 1912, to 9,705,669 frs., on December 31st., 1913, to 11,176,197 frs. and on December 31st., 1914, to 16,770,289 frs. The cash balance was on December 31st., 1914, 68,016 frs. against 3,496,214 frs. on December 31st., 1911, and the value of the coupons matured on December 31st., 1914, was 10,786,899 frs. as against 6,279,004 frs. on December 31st., 1911.

The amounts collected by the society in the months July-November, 1914 were as follows: July, 1,679,191 frs.; August, 266,977 frs.; September 977,515 frs.; October, 3,504,938 frs.; November, 4,100,932 frs. As we see after the declaration of war in Europe, the debtors of the rural land credit society suspended payment of their instalments. Although the Board of Management of this institution disposes of means to compel payment of arrears (sale of land, distraint and sale of crops, the charge of interest on arrears) the measure habitually adopted by it in the last year, which is a very lenient one, is that of charging interest on arrears. The rate of such interest was 8 % up to August 1st., 1914; since then the Board of Management has been compelled to raise it to 10 %. Owing to this many of the landowners who had fallen into arrears with their payments have now paid up to date, which is shown by the amounts collected since September, 1914.

The land bonds in circulation on December 21st., 1914, of a nominal amount of 467,585,964 frs. are secured on land that may be valued at more than 2,250,000,000 frs., share capital of an amount of 10,600,900 frs. and a reserve fund of 30,409,826 frs. of which 35,674,500 frs. are invested in bonds of the rural land credit society and the rural bank and in Government revenue bonds. The security therefore represents about five times the value of the society's bonds.

During the last year, in view of the excessive number of instalments due, the society did not desire to aggravate the situation by increasing the number of its bonds in circulation by new issues ; therefore, since the beginning of the war, the board of management has quite suspended its loan business. The price of rural land credit bonds, like that of other secur-

s, has fallen appreciably, from 90 % and 91 % for the bonds to 5 %. Debtors who were unable to sell their bonds are keeping them until the circumstances are more favourable.

A new issue would further lower the price and render the situation of the money market more uncertain.

When, as a result of the collection of the instalments in arrear, the Society returns to its ordinary situation, it may again grant loans.

The balance of the reserve fund at the end of 1914 was 25,073,600 frs. securities and 5,336,226 frs. in cash, or altogether 30,409,826 frs., that is 5 % of the debt of the landowners, which is 467,613,834 frs.

The profit for 1914 was 806,056.69 frs., which added to the amount brought forward from the preceding year makes a total of 866,056.69 frs.

This profit was distributed as follows: 9712,451 frs. as dividend to holders of bonds at 5 %; 80,605.69 frs., to the members of the board of management and the directors and the balance 73,000 frs. carried forward to next year's accounts.

The estimates for the year 1915 are a revenue of 1,398,000 frs. and an expenditure of 636,314 frs. (staff, 524,114 frs.; material, 112,200 frs.) or credit balance of 761,686 frs. Such was, briefly the situation of the "Premier Rural Land Credit Society" on December 31st., 1914.

(Summarised from the Report of the Board of Management of the "Premier Roumanian Land Credit Society" for 1914).

Part IV: Miscellaneous

BRITISH INDIA.

PARTITION AND CONSOLIDATION OF HOLDINGS AND RELAYING OF FIELD BOUNDARIES IN THE PANJAB.

By Sir JAMES DOUTE, K. C. S. I.

The Panjab is in the main a country of small peasant landowners organised in village communities natural or artificial. An ordinary holding in the plains covers from five to ten acres. The fields of which it is composed do not lie in a single block, but are scattered over the area. The reasons for this arrangement, which is often inconvenient, are explained below. "Partition" has always held an important place in the revenue law and procedure of the province, but hitherto little consideration has been given to the advantages of "Consolidation" or "Restripement." The law on the subject of Partition is contained in the 9th. chapter of the Panjab Land Revenue Act.

In the United Provinces, which occupy the upper part of the basin of the Ganges, and in the East and Central Panjab, the village community is a real part of the social organisation which the English found in existence when they took over the country. A village, big or little, had definite boundaries, a central inhabited site, arable land held in divided ownership, and a waste area, often very large, open to the use of the whole proprietary body and its dependents. Under Indian revenue law all the members of such a village community are jointly responsible for the payment of the land revenue assessment. The common pasture, like all other common property, is held in recognized shares, but so long as it remained undivided, its use is without stint, no limit being placed on the number of cattle which an individual proprietor could graze, or, what is more curious, on the amount of pasture which he could convert into arable for his own profit. The Panjab pastures are generally, of poor quality, and fodder crops play a large

part in the agriculture of the province. The more land was brought under the plough, the easier, speaking broadly, was it to meet the demands of the Raja as supreme landlord for his rent or revenue. The above was the tenure with which the first settlement officers in the Panjab were familiar, and they imposed it even in the south-west of the province, where the common village did not exist. In that arid tract cultivation outside the river valley was impossible without artificial irrigation. In the dry uplands the new unit of ownership was the well. The well holdings were scattered over a vast area of waste in which boundaries were not recognized, and over which the cattle of the cultivator and the flocks and herds of nomad shepherd and nomad owners of horned cattle and camels grazed and browsed at will. Instead of accepting this tenure as they found it, our officers formed estates of groups of wells to which they assigned an ample area of waste as common property. The surplus waste they claimed as the appanage of the State.

In old days when a body of tribesmen or peasants, by permission of the ruler or otherwise, settled on a vacant tract of land, they sooner or later proceeded to divide among heads of families according to definite shares the parts of the area most easily cultivable. The guiding rule was the democratic one of complete equality. One way of securing this in northern India, as in other countries, was the periodical redistribution of land. The right to enforce this where it is in accordance with established custom is recognised by Panjab revenue law. Cis-Indus the custom has nearly died out and may never have been widespread. It survives in a few estates in the south-east of the province (1). Some of the Pathans in British territory adjoining the Western frontier carried out periodical redistribution within recent times, and beyond the border among the semi-independent tribes to the north of the Peshawar district the custom was very much alive a dozen years ago. Sir Henry Mc Mahon, the present representative of British authority in Egypt, was at one time a political officer in the tract referred to. Writing to the Author in 1901, he noted that "the system of periodical redistribution of lands in these countries is universal. Redistribution takes place at fixed intervals, which vary in each locality from 5 to 10, 15, and 20 years. (It)... extends to the exchanges of whole *tappas* (2) as well as to the redistribution of the general shares of *daftaris* (3). The redistribution of *tappas* is, as might be imagined, the source of serious dispute. Heavy fighting is at the present moment taking place over the redistribution of the *tappas* of subdivisions of the Bahozai tribe in Upper Swat, the object of which, after a long period of 25 years without redistribution, is to give the other subdivisions of the tribe a turn in the possession of Mingaora, not only one of the strongest villages in Upper Swat, but a place whose position on the main trade routes gives it a heavy income from tolls. Sooner or later this "pernicious system", as Sir Henry Mc Mahon calls it, must disappear.

(1) Gazetteer of Gurgaon.

(2) tappa = tract held by a subdivision of a tribe.

"Lands which might be irrigated by new water channels remain unirrigated, for what Pathan will do a stroke of work for the benefit of his successor? Why should he make water channels? Why should he plant trees or make orchards for some one else to enjoy at the next redistribution?"

Apart from periodical redistribution the easiest way to ensure equality of treatment was to assign to each shareholder a plot out of every sort of land. A simple case is that of a village perched on the edge of the bank which marks the past or present limit of river floods, and including land both above and below that bank. There each man would undoubtedly claim a block in both uplands and lowlands, and family holdings might easily be the result of a more complex plan of division, for neither in the high or low tract would all soils have equal advantages. Another way to obtain equality was to allot land in long narrow strips. The plan was sometimes carried to great lengths, as in the case of the tenure known as "likivand" (line-division) in 22 villages of the Attock district. This consisted in the allotment to each family or subdivision of the village of a long strip of land in each of the main quarters of the estate, so as to ensure that no one shall get the better of his neighbour. Inside the strip, which often runs to a length of half a mile, each member of the family takes so many spans according to his share until, as subdivision increases, the resulting fields tend to become "length without breadth." (1)

According to the ideas of the people, property in land belongs to the family rather than to the individual. Under native rule, when the country was inquiet and population was kept down by wars and famines, there was little inducement to separation of interest. On the other hand, the English legal and revenue systems have for good or evil encouraged individualism. Under the native law of inheritance each son takes an equal share of his deceased father's land, and it commonly happens that family quarrels, for which the wives get the credit of being often responsible, make joint holdings irksome. But communal holdings are still numerous, and fresh ones are constantly being created when several sons inherit their fathers' property, or when a share in a holding is mortgaged.

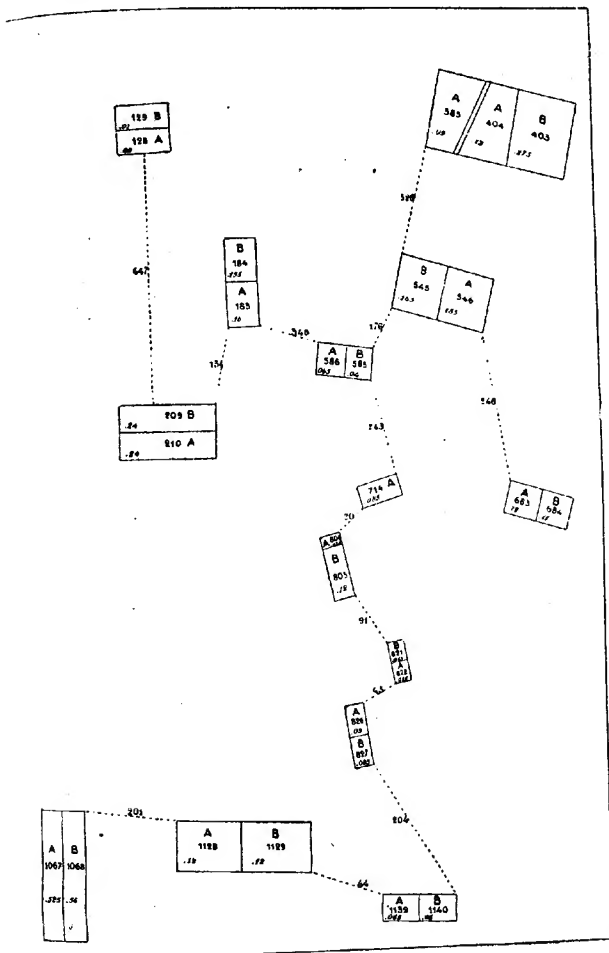
When peace and order were established and the State rent due from the village community was commuted to a fixed cash demand subject to no change for a period of 10, 20, or 30 years, it became the interest of each shareholder to break up as much of the common waste land as possible. As the process goes on it is found that some men have brought under the plough more than their proper share and that the powerful members of the community have grabbed the best land. In the end the weaker shareholders protect themselves by applying for partition in accordance with the ancestral or customary shares recorded in the record of rights. That important document, which is carefully kept up to date, besides showing what the shares are, contains a statement of the rule to be followed in carrying out partition.

Partitions of whole villages have been freely allowed in the United Provinces with the result that many small separate estates have been created. The process destroys the responsibility of the shareholder who obtains partition for the payment of the land revenue of the parent village community. It has always been discouraged in the Panjab, and can only be carried out with the sanction of the highest revenue authority in the province. In a few cases it has been allowed in order to break up some of the huge estates in the west of the province into more convenient revenue units.

When the shareholders in a joint holding decide to separate their interests there is no bar to their making the partition without the help of any Government official. When the process is complete and each man has taken possession of his own lot, they can have the transaction entered by the village registrar in the mutation register so that it may, after attestation by a revenue officer, be embodied in the record of rights. The law has carefully provided against the danger of the conversion of separate possession of land into separation of title against the wish of any of the joint owners. It is found that shareholders are for years content to cultivate less than their full share without any intention of giving up an iota of their rights. Private partition is only suitable in very simple cases. It will easily be carried out in the new Canal Colonies, where each of the original holdings consists of a single block of land divided into rectangular fields, all of the same shape and size (see No. 1 January, 1915). Where there is any complication, and especially when common waste has to be divided, it is prudent to invoke the aid of a revenue officer. Any joint owner or joint tenant, having a permanent right of occupancy, whose title is recorded in the last edition of the village record of rights, can apply to have his share in the family holding or in the common waste separated off. If any partition of common pasture occurs it will usually be found that each man wants to take his separate share.

The law is careful to provide that partition claims shall only be decided by officers of sufficient rank and experience, though they are allowed to act on reports furnished to them by subordinate officers. There is no better test of the worth of a revenue officer than his capacity to deal competently with a complicated partition. If there is a real dispute as to title a judicial decision must be obtained before partition can proceed. If no question of title is raised, or if one has been raised and decided, the right conduct of the proceedings depends above everything on willingness to take pains. A man dealing with a partition must be prepared at the outset to ascertain by careful enquiry what the real position of the contending parties is, and what is the nature and extent of any objections put forward. He must be ready to visit the village and satisfy himself by the use of his own eyes regarding the truth or falsehood of assertions as to the relative value of different plots of land. If he will take the trouble to do this, he will be able to do substantial justice. Though much of the detailed enquiries must be made by a subordinate, the officer who has to decide the case fails in his duty, if, as sometimes happens, he passes orders on written reports without having the parties before him, and, if need be, inspecting the land. There

Two Small Holdings in a Village in Jalardhar District.



his exact arithmetical share of each class of land. Such a procedure may in fact be far from equitable. While the holding was joint, one shareholder may have brought part of it under irrigation by sinking a well or digging a channel, or may have raised its value by embanking it. He ought as far as practicable to be allowed to retain the land whose present value is due to his enterprise. This can sometimes be done by giving to the other shareholders a larger area of unimproved land.

A revenue officer may for "good and sufficient cause" reject outright an application for partition. The right of appeal to a higher authority is a sufficient check on any misuse of the power. One case in which it is reasonable to exercise it is where many of the new holdings, which would be created by dividing the common land of a village, would be so minute as to be useless to the persons to whom they would be allotted. Claims by widows are troublesome. By a just provision of the customary law, which governs the inheritance of village land, a childless widow has a life estate in the land of her deceased husband. The next heirs look on her possession with suspicion and dislike, and they often raise strong objections when she asks to have her share separated off. Their fear that she will mismanage the property, if she gets undivided control, is not infrequently well founded. On the other hand the widow is sometimes cheated of her fair share of the produce of a joint holding. If any satisfactory arrangement can be made to safeguard her rights without partition, it is safer to disallow it. The law expressly cites other cases in which partition may be refused. Examples are grazing grounds and the drainage area of the village tank. Even if the grass in a village common is not of much value, it is useful to reserve part from partition, so as to have some vacant space where the cattle can be kept in the day time. In arid tracts, where the people depend on tanks for their own drinking water and that of their cattle, it is important to keep the drainage area free from separate occupation. The village site itself cannot be the subject of partition proceedings.

When a case has been decided, an instrument of partition detailing field by field the allotment of land to each shareholder is drawn up. Before this is done the village registrar should have pointed out to every man the land that has fallen to him. If this preliminary has been properly attended to, possession is usually obtained without difficulty. If it is refused, the revenue officer will, if applied to, enforce the partition. As soon as is actually carried out the registrar should write up the new holdings in his mutation register for entry after attestation in the record of rights.

In the years 1911-12 the number of partition cases decided was 9,587. The area involved was 744,700 acres, of which 314,801 were cultivated. As there are 35,000 villages in the province there was, roughly speaking, one case for every four villages.

Before referring to the question of consolidation it may be well to show graphically how inconvenient existing arrangements may be. The diagram which is not drawn to scale, shows the actual distribution of a very small holding, which A and B inherited from their father and subsequently divided.

though the original holding only covered an area of less than 4 acres, it consisted of 13 distinct parcels of land, the distance between each set of two varying from 30 to 447 yards. Partition was effected except in a single case by dividing each parcel of land in two. A list of the fields in the two new holdings is given below.

TABLE I. — *Distribution of two Holdings formed by Subdividing a Small Holding consisting of 13 Parcels,*

No. of Block	Holding of A.		Holding of B.	
	No. of Field	Area in Acres	No. of Field	Area in Acres
1	128	08	129	09
2	183	16	184	16
3	210	24	209	24
4	385	09		
4	404	12	403	27
5	546	15	545	16
6	586	05	585	04
7	714	08		
8	804	02	803	12
9	822	05	821	06
10	826	09	827	09
11	1,067	53	1,068	56
12	1,128	12	1,129	12
13	1,139	07	1,140	05
Total . . .		1.85	Total . . .	1.96

The revenue law is silent on the subject of consolidation, but in some cases necessity has taught the people themselves to find a remedy for dispersion. A well with a good water supply is worked with four yokes of oxen working in relays of a yoke at a time. Four small owners with two oxen a piece can reasonably combine their capital and labour to sink a well. Each will then take a fourth share of the water and be entitled for six hours out of the twenty four to use the well to irrigate his own fields. The original holding shown in the diagram was large enough to use profitably a fourth share of the water of a well. But a man cannot irrigate such scattered fields. A proprietor in this predicament has to try to induce his neighbours, if he can, to take some of his fields and give him some of theirs in exchange. If he succeeds the exchanges are embodied in the

is always a great tendency to do the work mechanically and give every man his exact arithmetical share of each class of land. Such a procedure may in fact be far from equitable. While the holding was joint, one shareholder may have brought part of it under irrigation by sinking a well or digging a channel, or may have raised its value by embanking it. He ought as far as practicable to be allowed to retain the land whose present value is due to his enterprise. This can sometimes be done by giving to the other shareholders a larger area of unimproved land.

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record of rights. In the much rarer case of a holding consisting of a single narrow strip of land, irrigation is impossible. Where "likivand" exist it fortunately tends to break down before the wish to sink wells.

"When a man wishes to improve his property in this way he negotiates exchanges or purchases and consolidates his holding. In one small village of 366 acres, in which there has been a rush to sink wells, remeasurement showed that some 1,500 mutations must be entered up to give effect to all the transfers which had taken place" (1).

In the Jalandhar district peasants resort to exchanges in order to consolidate holdings when they intend to sink a well. Exchanges with the same object are common in Ferozepore. Agricultural statistics for the province show the total number of exchanges and the areas exchanged. They give no clue to the proportion of cases in which the motive was consolidation but it is probable that in very many cases that was the object in view. This inference is strengthened when we observe that exchanges are specially numerous in districts in which there is activity in well sinking. The table below gives totals of new wells sunk, exchanges affected, and acres exchanged for the five years ending 1913-14. The provincial figures are the totals for 27 districts, those for Multan and Muzaffargarh being excluded.

TABLE II. — *Statistics of Well-Sinking and Exchanges 1910-1914.*

Detail	New Wells	No. of Exchanges	Acres Exchanged
Province	12,933	90,399	162,992
Jalandhar district	1,307	27,667	18,945
Ferozepore "	778	4,660	10,093
Scialkot "	1,222	3,869	4,554
Gujrat	787	3,869	6,306
Attock	772	2,051	7,866
Total - 5 districts . . .	4,866	41,695	47,764

The new conditions due to the extension of canal irrigation have led to striking changes in the configuration of fields and holdings. An ordinary Panjab village map consists of fields of all shapes and sizes; the map of one of the new canal estates looks like a very large chess-board. In the case of unirrigated fields irregularity of outline matters little. But when canal water is introduced all the irrigation arrangements are immensely simplified if rectangular fields of uniform size are adopted. Further, the official record of crops, which is made twice a year, is much facilitated, and the map,

(1) Gazetteer of Attock.

once made, is practically permanent. If partitions and transfers occur they can be embodied in it by adding a few straight lines. In the case of State lands colonized on the new Canals in the west of the Panjab the Government has had a free hand, and has ordered that the holdings allotted to colonists shall consist of one or more rectangles measuring 25 acres, and each divided into twenty five rectangular acre fields. It was evident that much advantage would accrue if the same arrangement could be carried out in old villages when they received the benefit of canal irrigation. The people at first look askance at proposals for rectifying fields boundaries, but they gradually become alive to the advantages of a system which *inter alia* prevents encroachments and boundary disputes, and enables even an ignorant man to check the record of his crops and the charges made for water. The Government has now made the acceptance or rectification of field boundaries a condition precedent to the introduction of canal water for the first time into a village.

It is convenient but not essential, to have one acre fields. What is really necessary is that all fields should be of the same rectangular shape and most of them of the same size. In the case of old well irrigated estates, where the fields and holdings are small and land valuable, the amount of dislocation caused by the rectification of boundaries makes it certain that it will not, as a rule be willingly accepted. But in unirrigated estates with large fields the owners may perhaps in time become convinced of the advantages they would derive from rectification. Obviously a relaying of field boundaries involves a repartition of the village area, and a very large number of exchanges. But existing orders do not encourage any attempt to add consolidation to rectification. They run, "Efforts should be made to cause the least disturbance of existing holdings possible, and, unless the people specially desire it, no attempt should be made to amalgamate holdings scattered in different parts of the estate. They often owe their origin to the qualities of soil, and provision should always be made for owners to receive not only the amount of land they originally held, but the same amounts of each important class of land." No doubt it is desirable in the first instance to make the allotments on this principle but before closing the proceedings it might be useful to point out to the people the advantages of a certain amount of consolidation, and to offer to embody in the record any exchanges they may desire to make with this end in view.

The Indian peasant is intensely conservative and regards all reforms with suspicion and dislike. It would be unwise to press them upon him in the interests of consolidation. Where he realizes its advantages, he has the means of carrying it out by exchanges, if he can secure the consent of his neighbours, and the revenue machinery provides sufficiently for the entry of all transfers of fields from one holding to another in the record of rights.

FRANCE.

METHODS OF CALCULATING THE LOSSES CAUSED TO FARMERS BY THE WAR.

OFFICIAL SOURCES :

MINISTÈRE DE L'INTÉRIEUR. COMMISSION SUPÉRIEURE CHARGÉE DE LA REVISION GÉNÉRALE DE L'ÉVALUATION DES DOMMAGES RÉSULTANT DE FAITS DE GUERRE. RAPPORT GÉNÉRAL SUR LES MÉTHODES D'ÉVALUATION DES DOMMAGES, présenté au nom de la Commission supérieure par M. Hébrard de Villeneuve. (*Ministry of the Interior. Superior Commission Entrusted with the General Revision of the Estimation of Losses Due to the War. General Report on the Methods of Calculating Losses, presented by M. Hébrard de Villeneuve, in the name of the Superior Commission.*)

§ I. GENERAL PRINCIPLES.

A very recent law of December 26th., 1914, establishes the right to compensation for material loss caused by war, and its 12th. article lays down two kinds of very different provisions :

Some relate to the calculation of damages to be estimated by Cantonal and Departmental Commissions, and, in the last resort, by a Superior Commission at Paris; others refer to the settlement of claims and reserve it to the legislative body to decide on the conditions giving right to compensation for losses. Doubtless estimation is an indispensable preliminary before any compensation can be given, but such estimation in no way binds Parliament in its later decisions and in no way affects the sovereign rights the exercise of which it has reserved to itself.

A decree of February 4th., 1915, organizing the valuation commissions, strictly conforms to the text and spirit of the law of 1914 on this point.

The office it assigns to the commissions is only that of verifying the material loss and estimating the damage suffered by the victims with no right of intervening in the settlement of claims. Let us add that the Government considered that, even before the work of the commissions commenced, the Superior Commission should formulate its opinion, supported by reasons, in regard to the best methods of estimating the losses through war, while it will afterwards, in virtue of its own powers, examine and revise the application of these methods. This opinion we shall now summarise

considering in the first place: 1st. what losses must be included in the estimation made by the commissions; 2nd. according to what criterion the estimation must be made; 3rd. at what date the loss must be estimated.

(1) Under the existing laws, the only losses the Commissions can rightly consider for purposes of their estimates are those presenting all the following characters:

Material loss, exclusive of indirect losses, such as the loss of profits;
Present losses already caused, exclusive of *eventual losses*;

Losses *directly* due to the war.

(2) The question of the *criterion* for the valuation has given rise to two opposing theories, which have both been sustained before the Superior Commission.

According to the first, the valuation should be based on the cost of reconstruction and restoration of the property destroyed, less the deductions to be made on account of previous deterioration.

According to the second, the *criterion* is the value the object destroyed has at the moment of its destruction.

The majority of the Commission decided in favour of this second view, which was judged to be in conformity with common law. In cases of compensation for losses due, either by private persons responsible, or the State when executing public works, or insurance companies in virtue of contracts passed, the legal rule is that the estimation is based on the value of the object destroyed, without regard to the intention the party injured may have of repurchasing the object or rebuilding what has been destroyed.

Therefore the loss should be calculated according to the value of the objects injured and not according to the expenditure needed for their reconstruction. However, exceptions to this rule have always been allowed in cases of small importance or under special circumstances. We shall find below a few examples of these exceptions in the case of simple decay of buildings and in regard to farms and forests.

(3) It being admitted that the value of the object destroyed must serve as the criterion in accordance with which the loss is estimated it must be decided at what date this value is to be estimated.

The rule of common law is that, in order to judge of the damage, we must place ourselves at the moment at which it was caused.

In regard to furniture, crops etc., this principle would present no equal difficulty in its application; the point that will remain sometimes rather embarrassing is how to fix precisely the date of the removal or the destruction.

With regard to buildings, the Commission has been induced to deviate from the above rule or rather to introduce a condition which seemed to it equitable and which is not at all in conflict with the law. To attempt to apply in the case of houses this method of valuation at a fixed day would often present real impossibilities. Such precision is besides more than is necessary, for a building does not suffer daily alterations in value, as do objects the market price of which changes from moment to moment. If the date for valuation is fixed at the period immedi-

ately preceding the war, there will be absolutely no departure from the rule that the value of the things damaged must be calculated at the moment of the injury, but, by means of a fiction which is very near a truth, the period of the war is taken as a unit of time, which is at once more practical and more equitable.

After having thus indicated the *criterion* for the valuation of the loss and the date at which they are estimated it remains for us to give the rule for the estimation.

§ 2. GENERAL RULES FOR BUILDINGS,

(1) Previous to any verification or estimation, the Commission must, through the medium of the delegate of the Minister of Finance, obtain the estimates the financial administrations were able to make of the value of the buildings damaged at a date as near the war as possible.

It must obtain the last decennial estimate of the department of direct taxation, and, especially, information in regard to the general condition of the buildings in the commune, statement of the taxes on buildings, special documents relating to buildings of exceptional value, and the protests made by the ratepayers against the estimates of the authorities.

It must seek in the files of the registration offices and if need be in the registers of mortgages for all documents relating to the buildings in the last ten years.

The various information the Commission intends to make use of must be communicated to the parties concerned on request.

(2) In the case of buildings mortgaged to the Land Credit Institute of France, it must request that the estimates of the inspectors of that establishment be communicated to it.

(3) In the case of insured property, it must ask the applicants for the insurance policy.

(4) The Commission must make investigations in regard to the cost price of construction of the buildings before the war, with deduction for depreciation through lapse of time. The Commission must have power to charge one or more of the competent persons whose assistance it has obtained with the preparation of a report on the cost of construction of buildings of ordinary character, so as to be provided with a sure and rapid means of calculating simple losses.

The comparative examination of these various elements will allow of the valuation of the loss, in cases of total destruction. In cases of partial destruction, the value of the salvage is to be similarly calculated.

In cases of slight damage or mere deterioration, the Commission must only calculate the cost of the necessary repairs, but if this cost amount to more than a fifth of the value of the building before the war, it must consider that there has been partial destruction and proceed as above.

§ 3. SPECIAL RULES IN REGARD TO DAMAGE TO FARMS.

Independently of the above general rules relating to buildings, more special account must be taken in the case of farm buildings of their uses, that is to say of the uses they really serve, without any profit being made by the victim of the loss.

In the absence of definite indisputable indications, an interesting point may be taken into consideration: namely the average relation, in a particular region, between the value of the buildings and of the holdings in the case of large, small and medium sized farms.

The Superior Commission has considered it advisable to supplement these general instructions by detailed indications of the various categories in which agricultural property exposed to damage by war may be grouped.

Agricultural Equipment. — Under this head are included the machinery, motors, carts, implements, tools, harness and furniture purely for farm use, belonging to the farmer etc.

The Commissions must make sure that the declarations made are true and really correspond with the areas cultivated.

The reasonable purchases made by the farmers, the cost of repairs, and the estimate of competent persons in regard to leases with livestock will be of great assistance to the Commissions in making their estimates.

Draught Cattle and Cattle for Sale. — As in the preceding instance, the Commissions must make sure that the declarations made correspond with the facts. They may, for the purpose, consider the area and the class of crops. The managers of agricultural services and the professors of agriculture will be of valuable assistance in this respect to the cantonal commissions. The estimate for the animals will represent the value of the livestock at the moment of the loss.

Agricultural Produce in Warehouses. — Under this head are included the straw, and cattle foods in warehouses or stacks, grain, seed, oilcake, bran, roots and tubers, household stores etc. The valuation Commission must try to ascertain the value of these articles at the moment of the loss.

Manure heaps and fertilisers will be valued in accordance with the principles above indicated.

Standing Crops. — The Commissions will have to fix the value of this produce at the moment of its destruction, on the basis of the values admitted in the country. Local experts are frequently called to make valuations of this nature and the average prices known and accepted must simply be adapted to the cases under consideration.

Vineyards. — Two cases are to be considered: the total or partial destruction of the vineyard, or the destruction of the last harvest only.

In the first case, the Commissions must estimate the loss, taking into account the cost of new plantation. All facts relating to the planting, stocking,

grafting, fixing of poles or wires, preparation of the vineyard etc., in accordance with the custom of the country and viticultural practice, must be considered in making the estimate. The value of the harvest destroyed, fixed according to the nature of the root stocks, the previous harvests and the documents relating to the harvest in question, must be added to the estimate of the new plantation.

The result of new plantation may be the loss or diminution of crops during three, four or five years, according to the district, but from such loss should be deducted the increased value of the reconstituted vineyard. The Commissions must be guided by local custom in their estimates, the total amount of which must never exceed the value of the vineyard at the moment of its destruction.

This latter remark applies also in the two following cases, those of hop gardens and orchards or gardens.

Hop Gardens. — The case of hop gardens is similar to that of vineyards: if the hops are entirely or partially destroyed, calculation must be made of the cost of the reconstitution of the garden with poles or wires to restore it to its former condition, and the value of the crop must be added, if it has been lost; as well as that of the annual loss in value, but deduction must be made for the increased value of the hop garden through its reconstitution.

If the harvest only has been destroyed or spoiled, the estimate must correspond with the real loss, which in this case is comparatively easy to fix.

Orchards, gardens. — The rule for estimating losses in cases of vine yards and hop gardens applies also in that of orchards. If an orchard is entirely or partially destroyed, it must be virtually reconstituted as it was as regards the number and kind of plants. The declarations made must therefore show the number of trees destroyed, their kind, their average production etc., and the value shall correspond with the cost of obtaining the plants, the new plantation, grafting etc., that is to say the restoration of the orchard to its former condition. To these amounts must be added the value of the last crop destroyed and the reductions of crop, deducting eventually, from the total estimate the additional value acquired by the restoration of the orchard to its former state.

Nurseries. — In this case the estimation is simple: it depends on the number and current market value of the plants destroyed according to the age and their nature. A list of the plants and the ordinary sale prices must be sent in to the Commission.

Preparation of Soil for Crops. — If land sown or simply prepared for seed is damaged by military evolutions or the passage of troops, the value of the preparation of the soil and the land sown must be made according to the custom of the district.

Battlefields and Trenches. — The resumption of agricultural work will require first of all the removal of the shells, at any rate of those that can be found.

Then the trenches must be filled up and these, in some cases are real fortifications occupying large areas and extending deep into the soil or subsoil. The estimate will therefore include the work of demolition, if the

ifications are considerable (masonry, concrete, timberwork, fences etc.); that of filling up the trench; that of levelling; or, in other words, the restoration of the soil to its former condition.

In case of destruction of drains, enclosures or canals, the value of the material that can be used that remains in the possession of the claimant must be deducted.

Finally, in case of permanent depreciation in value of the soil owing to its being violently disturbed and covered by sterile layers, the Commission must estimate the amount necessary for the restoration of the farm to its former condition and take into consideration the depreciation in value of the soil for the purposes for which it served.

In regard to private roads, the estimate would also include the expense of their reconstruction.

§ 4. SPECIAL RULES IN REGARD TO DAMAGE TO FORESTS.

The estimation of damage caused to woods and forests is a specially delicate matter, for forest land is a kind of property possessing quite a special character.

At first glance, this special character is not seen. Forest plantations like farm crops are the result of cultivation and a wooded estate of some importance may provide its owners with an annual income like a farm; but considering the matter more attentively we find that forest property has this fundamental and exceptional character that it never furnishes an annual income at a certain place. Whilst in farming the general rule is that one derives produce from the soil each year, a wooded holding, of whatever nature, is not capable of giving a yield till a certain number of years after the 'plantation' or its renewal. Besides, in contradistinction to other crops, wood increases in value from year to year up to the ordinary date of felling. So we are induced to regard the forest soil as a capital bearing compound interest, and from this idea follow the special rules for forest valuation.

On the other hand, the cultivation of forests yields products of very different value and character (timber, wood for manufacturing purposes, fuel etc.) with the peculiarity that each kind of wood may be utilised, not only for the usual purpose but also as wood of inferior classes.

Now this peculiarity is of great importance, especially in the case of requisitions, for the forest proprietor may suffer considerable loss if wood of a superior quality is requisitioned for inferior purposes, especially if timber is requisitioned for fuel.

Finally, the effects of damage done to forests are often unknown and the valuation of them calls for technical knowledge scarcely to be found outside of professional circles.

For these various reasons it has been judged advisable to consider the damages to forest land separately and these damages have been classified as follows:

- (1) damage to wood cut ;
- (2) damage to growing plantations ;
- (3) damage to the holding.

(1) *Damage to wood cut.* — If the wood cut has been destroyed or lost as a result of incidents of war, it is valued at the market rate. The price fixed is that of wood in the forest that is to say the price paid at the centre of sale or consumption, less cost of transport.

(2) *Damage to standing plantations.* — This is estimated at the value the wood damaged or destroyed would have yielded the owner, less any eventual salvage.

If the wood damaged or destroyed were sufficiently old to be considered as fit for sale it must be estimated at the market price, or rather at the price the consumer would pay. Otherwise, the forest must be treated as capital invested at compound interest, and estimated at the future value, that of the value the wood would have had when fit for felling less a suitable discount.

This future value is arrived at by means of a formula obtained from: 1st. the revenue at the ordinary age for felling ; 2nd. the age at which the plantation was felled or destroyed ; 3rd. the rate of investment of the capital represented by the forest.

(3) *Damage to the holding.* — No special rule has been laid down for estimating damage to roads, houses, saw mills and forest buildings. The damage caused by disturbance of the soil and destruction of the root stocks of copse woods or forest trees is estimated from the amount required to restore the former state of the soil. When it is not possible to do this except imperfectly, an estimate of the compensation due will be made.

§ 5. ESTIMATION OF DAMAGE TO PERSONAL EFFECTS.

The rule prevailing in this matter is that the estimate of loss must be based on the value of the object lost or destroyed at the moment of the loss.

In the case of personal estate, other than securities and document of title, for which special provision is made, the cantonal commission must demand a detailed statement and estimate for the easier verification of the loss and as evidence of the seriousness of the claim. It must make an abstract of each declaration so as to classify the damage under the four following heads ; moveables, linen etc., objects of exceptional value, other personal estate.

In regard to the articles coming under the first two heads, the commission must compare the various proofs the claimant brings forward in support of his claim, insurance policy, invoices, receipts, registers or family papers etc., with those it is able to obtain from the public offices especially from the registration office, and it must base its estimate on the valuations that seem to it best supported.

In the case of objects of exceptional value that cannot be considered moveables, the commission must ask the claimant for his insurance policy. Then it must try to obtain all the information that may enable it to verify the estimate, especially dated documents proving the existence of the objects and fixing their value.

In case such comparison can not be made, if the commission has before authentic documents enabling it to identify the objects, and dated less than ten years back, it shall base its estimate on the value shown in these documents. If it has only the insurance policy before it, it shall, in virtue of its own powers, reduce the value by half, allowing the interested party in either case to bring proof of a higher value. In case no document exists the commission must consult competent persons.

Finally in the case of all objects not included under the first three heads, of which a complete enumeration cannot be given; horses, carts, etc. the commission must examine the claims as far as possible and only allow those for which the claimant brings positive proof.

In no case can claims for debts be allowed, as they come within the competence of the law courts.

Claims for loss of money (cash or bank notes) can only be considered when formal detailed proof of the loss is produced.

Let us add that the general rules regarding furniture apply to equipment in so far as not consisting of fixtures, to goods and food supplies; there exists a specially useful means for establishing the value of the latter in the price lists published in the papers.

Such are the general principles and rules for valuation the Superior Commission has thought fit to recommend as a guide to the local commissions in the exercise of the important and delicate mission entrusted to them. These rules leave the local commissions sufficient latitude to judge, as they have to, each particular case, taking account of the circumstances, but their effect will be to enable them to undertake the great work to be accomplished with a certain unity of view and to complete it more rapidly.

ITALY.

AN ENQUIRY INTO THE ECONOMIC CONDITIONS OF THE TENANT FARMERS IN THE PROVINCE OF UDINE.

This enquiry was carried out by the Provincial Labour Office at Udine with the object of preparing material for the study of reforms and improvements in the relations between the landlords and metayers (1). By means of it information was also obtained in regard to small household industries, which it was desired to extend so as to give the tenant farmers' families a means of increasing their incomes and provide them with occupation in the hours and at the seasons when field work is suspended.

The investigations, however, were not extended to the communes in mountain districts, where, indeed, there are no important farm tenancies, though these abound in the plains.

The households considered are those leasing at least 20 *campi friulani* (2) (7 ha.); consequently 1,070 households, composed of 5,350 individuals in all, working farms of a smaller area, were neglected. They are equal in number to about 18 % of the households actually studied, and on an average work 12 *campi* per family, and so altogether 12,840 *campi*. For 340 of these families the receipts and expenditure were equal; 660 of them closed their accounts with a *deficit* and 70 with a small profit. This result is due to high rents (40-100 frs. per *campo friulano*) and the unsatisfactory working of the land owing to want of labour or capital.

Besides this, 388 households with 5,036 members (6 ½ % as compared with the households studied), were not considered in the enquiry, as the heads are small landowners who cultivate their own farms and also work farms belonging to others. Almost all of these close their accounts with profit, although they pay high rents and the increase in the rents is indeed principally due to them.

The households studied are shown below :

(1) See the " Bollettino dell'Ufficio Nazionale del Lavoro ", published by the Department of Agriculture, Industry and Commerce, Rome, no. 15, October 1st., 1913.

(2) 1 *campo friulano* = 3, 500 sq. m.

TABLE I. *Tenant Farmers' Households considered in the Enquiry.*

District	Tenant Farmers' Households	Members of Households (Including Children)
Almanova	680	8,714
Alisana	556	7,622
Colpo	275	3,684
Idine	527	6,778
San Daniele	427	6,040
Verona	65	650
Varco	100	1,063
Vidale	1,481	14,000
San Vito al Tagliamento	690	10,700
Verdena	755	11,726
Vidale	295	4,170
Marigo	23	310
Spilimbergo	106	1,395
Total	5,980	77,492

Let us now at once consider the farm tenancy contracts and the balance sheets of the tenants' households.

Contracts in Vogue. — There are three principal types of contract, metayage, mixed leases and leases for rents in money. Metayage, for which the unit of cultivation is from 40 to 60 *campi friulani*, appears under four different forms, according to the proportion contributed by the parties to the formation of the capital and according to the division of the profits.

Mixed leases represent a kind of metayage but with a fixed amount of money or grain, generally wheat, representing the landlord's interest in the produce of the soil; in regard to the produce of the trees the system of metayage is applied, with the corresponding mutual rights and duties. The unit of cultivation is from 20 to 60 *campi friulani*; in this case also the contract may take four different forms.

In the case of rents to be paid altogether in money, finally, the tenant pays from 40 to 50 frs. per *campo friulano*, in cash, in two annual instalments on expiration of terms, without any other charge. The costs of working the farm are all borne by the tenant. The landlord has only to pay the taxes and general expenses.

The above three forms of contract are found in all parts of the region; however, rents in money are less frequent on large tenancies and correspond with only 5 % of the contracts. Mixed leases predominate to the East of the Tagliamento (Udine, Gemona, Tarcento, San Daniele, Codroipo, Latisana, Palmanova, Cividale) and represent 85 % of the contracts; to the West of that river (S. Vito, Pordenone, Sacile, Maniago, Spilimbergo) metayage predominates, representing 80 % of the contracts, as against 15 % mixed leases and 5 % tenancies with rents payable in money.

From an examination of the accounts of peasant families classified according to the various types and forms of contract, it was possible to prepare the following table:

TABLE II. — *Statistics of the Various Farm Tenancy Contracts.*

Type of Lease	Tenants' Households	Campi Worked	Number of Members of Tenants' Households	Share of the		Average Yield per Campo	
				Landlord	Tenant	To Landlord	To Tenant
Metayage	Type A 90 %	1,712	91,070	25,142	2,780	2,212	55.60 41.30
	" B 5 %	95	5,061	1,395	2,920	2,622	58.40 32.40
	" C 2 %	39	2,018	550	2,714	2,146	54.30 42—
	" D 3 %	57	3,041	844	2,180	2,512	43.60 50—
	Total	1,903	101,190	27,937			
Mixed	Type A 35 %	1,320	48,461	16,007	2,030	2,535	50— 61.4
	" B 50 %	1,887	69,231	22,826	2,150	2,415	53.70 60—
	" C 15 %	567	20,769	6,846	2,150	2,415	53.70 60—
	Total	3,774	138,461	45,679			
Rents Payable in Money	303	12,614	3,876	2,150	2,465	53.70	61.6
General Total	5,980	252,265	77,492				

It is to be observed that in compiling the table for the metayage contracts, the unit of cultivation has been taken as 50 *campi friulani* of average fertility, while in those for mixed leases and tenancies paying rent in money the unit was taken as 40 *campi*:

Under forms *B* and *D* of the metayage contract, the tenant, generally, has nothing of his own, while in all other cases he owns the horned cattle and farm implements, and this is why his profit appears larger, through interest on the capital invested in livestock.

The Accounts of the Households. — In order better to ascertain the economic situation of the colonists of the province, the report of the enquiry further gives, as nearly as possible, the figures of the balance sheets of the households, studying for the purpose a household of the prevalent type in each commune and noting how many households were in better or in worse circumstances.

The data thus obtained are summarised below :

The general average expenditure per household is 155 fr. per year, but in the case of those the accounts of which show a *deficit* it is 149, and for those that closed theirs with a profit it is 170.

The food of the least badly off consists of, in the morning, polenta with milk and cheese, at midday, bean soup or macaroni flavoured with pork and pork to accompany it, in the evening, vegetables and cheese or milk and polenta. They drink wine in winter.

The poorer families, however, eat in the morning only polenta, and then only potatoes, at midday soup, in the evening vegetables or polenta.

Very little is spent on clothing, and expenditure on pleasures is almost unknown ; only the emigrants spend considerably for either of these purposes.

There are no small industries in the province, except in the district of S. Daniele and a few other communes. But this — as has been observed — is an advantage, because generally speaking the average tenant farmers' family even in winter has to give all its attention to agriculture, in order that the farm may be carefully and thoroughly cultivated.

It is only among the emigrants alcoholic tendencies are observed.

Economic Discomfort. — But, the dominant note of the report of the enquiry is the economic discomfort of the peasants of the province. The soil is in the first place little fertile, atmospheric conditions are continually unfavourable, purchase and sale is difficult ; and to this must be added sometimes burdensome conditions of contract, insufficient remuneration and the lack of capital, which is also shown by the short time the tenants remain on the farms, the rural exodus on the part of the most vigorous members of the tenants' families etc.

The Desires of those Concerned. — The enquiry also succeeded in collecting the desires of the tenants, of the landlords and of both groups.

The tenant wants :

Long leases.

Rents in proportion to the yield of the land.

Annual settlement of accounts.

Fair compensation for improvement of the farms.

Fair compensation for building, either for storage or transport.

Abolition of compulsory personal labour.

Abolition of customary gifts or "appendizi".

TABLE III. — Statistics of the Balance Sheets of the Tenants' Households.

Districts	Number of Tenants' Households in the District (3,500 sq. m.)	Campi Fiumi Worked in the District (Campi of 3,500 sq. m.)	Total Yield of Farms Worked — Frs.	Total Expenditure for Purchase of Manure — Frs.	Balance Sheets of Tenants' Households Closed with				General Economic Situation of the Tenants		Do the Tenants Remain Long on the Same Farms		Term of Contract of Lease	Sentiment of the Tenant towards the Landlord		
					Net Profit	Loss	Profit	Unprofitable	Unprofitable	Yes	No	One Year	More than one Year	Indifferent	Unfriendly	Friendly
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Palmanova	680	24,160	3,624,000	250,000	345	193	142	466	214	611	69	670	10	208	74	398
Latisana	556	22,790	3,305,000	210,000	210	206	140	253	303	337	219	546	10	228	173	155
Codròlpo	275	11,825	1,500,000	85,000	107	117	51	55	220	202	73	245	30	82	126	67
Udine	527	18,000	2,300,000	90,000	267	174	86	02	425	354	173	516	11	270	189	68
San Daniele	427	18,000	2,300,000	100,000	97	270	60	147	280	305	122	425	2	202	105	120
Genova	65	1,950	275,000	17,000	60	71	25	58	107	120	45	130	35	96	11	58
Taranto	100	3,020	450,000	24,000	816	367	298	909	512	1,206	275	1,422	59	798	290	393
Civitate	1,481	44,000	6,160,000	350,000	329	246	115	315	375	569	121	655	35	213	169	308
S. Vito al Tagliamento	690	40,400	6,400,000	360,000	376	247	132	425	330	565	190	752	3	400	70	285
Portonovo	755	45,300	6,115,000	400,000	110,000	168	60	67	160	135	160	280	15	105	110	80
Sacile	295	17,700	2,020,000	6,000	10	10	3	10	13	—	23	—	23	—	20	3
Maniago	23	920	101,000	6,000	57	37	12	71	15	61	45	10	6	45	—	64
Splimbergo	106	4,200	540,000	20,000	57	37	12	71	15	61	45	10	6	45	—	64
Total	5,580	252,265	35,596,000	2,555,000	2,815	1,028	1,131	1,011	2,040	4,495	1,400	5,745	230	2,047	1,337	1,000

Institution of *Agricultural Arbitration Boards*.
 Institution of *Distributive Co-operative Societies*.
 Institution of *Co-operative Societies for the Sale of Agricultural Produce*.
 The proprietors want :
 Greater interest on the part of the tenants in the cultivation of the

arms.
 Greater union and more agreement between the members of the tenants' households.

Maintenance of customary gifts.

Diminution of emigration.

Diminution of rates and taxes.

Both groups desire :

Institution of experimental farms in connection with the schools.

Greater interest, protection and assistance on the part of the Government, Province and Communes for agriculture.

Conclusion. — The Report of the Enquiry ends with the following conclusions and proposals.

(A) As regards all the forms of the tenancy contracts generally:

1st. The rents and the tenants' contributions must not be raised beyond what the yield of the farm and the conditions of the market allow.

2nd. The tenancy contracts must be for a period of years, at least five, with guarantee of mutual observance of the contract and right to denounce in advance if the farm cannot be suitably worked.

3rd. Until arbitration boards are instituted for agriculture, a clause must be inserted in the contract providing for arbitration.

4th. Unremunerated or partially unremunerated personal labour in payment must be limited or abolished.

5th. Fair compensation must be given for improvements increasing the revenue of the farm, in so far as it is not enjoyed by the tenant, and annual payment must be made for improvements increasing the value of the farm.

6th. Accounts must be settled annually.

7th. The landlords must interest themselves directly in the administration and employ their capital more extensively for the work of the farms.

(B) As regards pure or mixed metayage or any form of share tenancy:

1st. Preference should be given generally to pure metayage, with contribution of the livestock by the landlord.

2nd. Rent for meadows should be abolished if the livestock is the landlords'.

3rd. Fair compensation should be given for vegetable gardens, the tenant should not be charged rent for the house, especially if it serves for silkworm rearing or for lodging of the household benefiting no further by it.

4th. Rent of meadows or a share in the cattle foods produced may be allowed in cases of metayage when the horned cattle does not belong to the landlord, in consideration of the charges supported by the tenant in

manuring and the advantages deriving therefrom to the farm and its fertility.

5th. Fair estimate should be made of the materials supplied to the tenant, if necessary or useful for the management of the farm, with no interest charged and fair valuation of the produce delivered by the tenant to the landlord.

6th. Small customary gifts in the form of fowls and eggs may be allowed.

7th. Emigration should not be absolutely forbidden, if an abundance of labourers is assured.

Apart from what may be established in the contracts, the desire is finally expressed that public or social institutions may promote the greatest possible reasonable improvement of agriculture by means of a large publication of demonstrative examples and by imparting experimental ideas of agriculture in the village schools, the encouragement of the constitution of *co-operative societies* for supply of material in centres remote from the existing agricultural circles, as well as the constitution of co-operative societies for the sale of the produce of the tenants, with increased propaganda in favour of the registration of peasants with the National Labourers' Disablement and Old Age Thrift Institute and by urging the approval of a bill on compulsory accident insurance of farm labourers.

SWEDEN.

THE VALUATION OF THE TIMBER RESOURCES OF THE FORESTS IN THE PROVINCE OF VÄRMLAND.

By Prof. HENRIK HESSELMAN,

President of the Division of Natural Sciences of the Swedish Institute of Experimental Forestry.

The question of determining what ratio the country's consumption of timber bears to the producing powers of its forests has for long been under discussion in Sweden. The country is undoubtedly rich in forests: it is estimated that an area of 21,600,000 hectares (or 52 per cent. of the total surface) is covered with timber. The amount consumed, both for the country's own use and for export is also enormous.

The Swedish trade in wooden articles, paper and the raw material for the manufacture of paper is of great importance in the economy of the country, and it is easy to understand, therefore, that it is a matter of great interest to the people of Sweden to determine with more exactness the real resources of their forests.

The country possesses 392 hectares of timber land for each hundred inhabitants, whereas the corresponding figure for the whole of Europe is only 74 hectares. It may be added that in Sweden the forests are not known with that precision and fulness of knowledge which is the case in Germany and other countries where the population is more dense than in Sweden. Most of the Swedish forest lands belonging to the great saw-mill companies, as well as the State Forests, have been valued, but the forests belonging to private individuals are in general known only very superficially. The accurate valuation of the latter would be an expensive undertaking as these private forests cover a vast area. We have had to content ourselves, therefore, with the determination of their average value which for districts of a certain size such as the Län (provinces), may be considered sufficiently exact. The valuation of the forests of Värmland which follows is in the nature of an experiment which aims at ascertaining the value of the methods selected.

Värmland is one of the forest regions of Sweden of medium size, covering 1,931,352 hectares. The northern part is entirely covered with timber, while in the south, forest and cultivated land is about evenly distributed. Thus the Värmland is typical both of northern Sweden which is very heavily wooded, and of central and southern Sweden where the land

is of mixed type. In the work of valuation this difference in type of country has been taken into account.

The conformation of the district is, as a rule, remarkably regular, the mountain chains running NNW-SSE. In carrying out the valuation, care was taken to select sample zones in the form of narrow strips running obliquely in the direction WSW-ENE, and thus cutting the mountain chains and the valleys. These strips, cutting across the whole province were only 10 metres wide; and as in Northern Värmland they were distant 4 km. from one another and, in Southern Värmland, 2 km., the area valued represented in the one case 0.25 per cent. and in the other 0.50 per cent. of the total surface. The total area actually valued was 6,181 hectares. It becomes necessary, therefore, to determine to what extent an area so small as that actually surveyed can be relied upon to give results, and to see how the accuracy of the results obtained may be controlled.

Within the sample strips, the distribution of forests, swamp land, grass land, cultivated fields and water-courses was determined; an estimate was made of the quality of the woods; and the number of trees, their kind, and the classes to which they were to be assigned according to size, were next ascertained. In each of the classes by size, one trunk in every forty was selected as a sample of the whole, and its volume and rate of growth were determined. For this purpose use was made of a method worked out by the Forestry Expert, Mr. T. Jonson of Stockholm, by which with great accuracy, especially as to volume, it is possible to make a survey even of standing trees. In this way the value was established of 32,746 sample trees distributed throughout the whole of Värmland.

The actual field work was carried out by parties of nine persons including a leader, who was in every case an expert forester. The sample strips were traced with the help of the compass and good maps, and were afterwards measured with the chain, all the work being carried out, as has since been proved, with extreme accuracy.

In order to control the results, use was made of the formula for the calculation of probabilities, and for the purpose, the sample strips were divided into lengths of one kilometre. As the strips were 10 metres wide, each length of one kilometre was equal to one hectare. In order to ensure the symmetrical arrangement of these sample plots a line was traced at right angles to the sample strips, at the point of intersection of a survey line passing through the centre of Värmland and the central meridian of the province (5° W of Stockholm). Starting, from this line, the sample strips were divided into lengths of one kilometre. Each section or sample plot thus marked out had two numbers assigned to it, of which one referred to the sample strip to which the section belonged, and the other indicated the distance from the above-mentioned central line cutting the sample strips. A separate record was drawn up for each sample plot.

In the calculation of probabilities the sample plot were classified in groups, each group made up of plots distributed regularly throughout Värmland. Each group formed an independent survey, which included

naturally, a more limited survey unit. The average of the various groups was ascertained, and from this was calculated the average error, according to the difference shown between each group and the average ascertained. For the estimation of the results of the forest survey of Värmland, a more simple subdivision of the surface to be valued was adopted, the sample strips being grouped in the following manner: the first group consisted of the strips 1, 11, 21, 31... etc.; the second of the strips 2, 12, 22, 32 ... etc., and so on. In this way the general survey was divided into ten partial and independent surveys each consisting of one tenth of the surface to be surveyed; and it was upon this basis that the mean error of the result was calculated. It was found that the distribution of error followed very closely the law of probability.

Comparing the determination of areas made by the above-mentioned system, and that obtained in the survey of the Economic Section of the Topographical Bureau, it was possible to establish the fact that the actual errors were less than three times the mean error. The above-mentioned Topographical Bureau has published an excellent map of Värmland upon which water-courses and sheets of water, land under cultivation, unbuilt-on land, etc. are all clearly and accurately indicated. We give below particulars as to the surface of the land as obtained by the method we have described, the mean errors and the real errors resulting from a comparison with the data of the Topographical Bureau:

	Surface (Hectares)	Mean Error (as calculated)	Mean Error (as ascertained)
Cultivated land	249,520	+ 1.27 %	± 1.42 %
Water-courses, etc. . .	180,022	+ 3.68 %	± 1.41 %
Unbuilt-on land	1,499,328	± 0.51 %	± 0.31 %

As may be seen the actual errors in no case exceeded three times the mean errors, and as a rule they were very small indeed.

The forest land of which the surface has not yet been measured according to the strict principles of forest surveying, covers an area of 1,194,806 hectares.

It has been found that, despite the relatively small area valued, the results obtained, as regards the volume of standing timber, its classification according to size of trees, kind of trees, and rate of growth, etc. are remarkably accurate. The mean error does not exceed 1.5 per cent. a result which must be regarded as excellent. We give below the principal results, with the indication of their probable accuracy according to the means errors.

The volume of wood amounted to 81,892,746 cubic metres ± 1.29 per cent., without counting the volume of bark. If the latter be added, the

volume reached 96,465,000 cubic metres. The total was distributed according to kind of wood, as follows:

Fir	48.43 per cent	\pm 0.44
Forest pine	37.10 per cent	\pm 0.45
Other kinds (birch, alder and aspen)	14.47 per cent	\pm 0.46

Fir is, therefore, the most important, followed by forest pine. As is shown by the smallness of the mean errors the distribution according to kind has been made very accurately. With regard to volume of wood per unit of area we have the following results:

Volume of wood per unit of wooded area . .	66.06 cu. m. \pm 1.45 per cent
Volume of wood per unit area of actual forest	66.6 cu. m.

What is important with respect to the forests of Värmland is that the classes of youngest trees and of smallest trees are of great importance. They form a very considerable part of the total volume of wood, a circumstance which is explained by the fact that, following the heavy cutting of the forests towards the middle and the latter half of last century, reforestation was undertaken on a vast scale. The youngest growth is also, in general, of very good formation, so that upon the whole, the result may be regarded as satisfactory.

The forests have a rate of growth of 3.54 per cent., equal to a volume of 2,744,541 cubic metres \pm 1.03 per cent. These figures relate to the wood alone and do not include bark.

According to the most reliable data at our disposal as to the consumption of timber in Värmland, the growth just balances the consumption. To the amount actually consumed it is necessary to add a considerable quantity of wood which is destroyed, without serving any useful purpose, as the result of decay or of fungus growth. It happens, for example, that the more feeble trees decay during the growth of a plantation before they attain to a serviceable size, and again, in some parts of Värmland, wood of birch and aspen are of no commercial value owing to the lack of means of transport. Any estimation of the amount of serviceable timber available which is based on the rate of growth is, therefore, necessarily exaggerated.

The Commission which carried out the survey of Värmland forest has drawn up a scheme for the carrying out of similar surveys in all the Swedish forests. We may here note the main lines of the project.

In determining the area of valuation of the different "Län" or districts the experience gained in connection with the survey of Värmland is to form the basis. The northern part of this region has been taken as typical of central and southern Sweden. For each of these two zones the mean error in determining the area of timber land, of marsh land, etc. at the point where the sample strip reached one kilometre of land of either kind has been calculated. This mean error expresses the influence exerted by the irregular distribution of the different types of land upon the survey.

the whole surface by the method described above. In applying the law of probabilities the extent of the area which it was necessary to value in order that accurate results might be obtained, was next calculated. In a region of the nature of the northern Värmland it was found that in order to bring the mean error below 1 per cent. it was necessary to value an area of 810 hectares of timber land. Where, as often happens, the forests form 60 per cent. of the total surface, it would be necessary to value an area of 1,350 hectares. The only convenient method, therefore, is to plot symmetrically on the surface to be valued a number of regular strips, as was done in the case of the Värmland. For a region of the type of the southern Värmland it would be necessary to value an area of 1,960 hectares of timber, that is a total surface of 4,900 hectares, in order to ensure that the mean error did not exceed one per cent.

Now it has been established that for the determination of the volume of wood it is necessary to make use of a sample area much greater in extent than that which will suffice when only the determination of the area of wooded land is in question. In calculating the valuation areas necessary in the different "Län," the mean errors involved in the determination of the volume of wood have been taken as the point of departure. A valuation of volume with a mean approximation of one per cent. requires in Northern Värmland a valuation area of 4268.4 hectares, and in Southern Värmland of 9,790.6 hectares. It is true that this has not been considered necessary to carry the approximation so far and that an approximation involving a mean error of from 2 to 3 per cent. is considered sufficient; and it is on this basis that the survey of the sample areas necessary in the different districts has been proceeded with. In laying out the sample strips, care has been taken to distribute them uniformly over districts as wide as possible. Thus, in Norrland and in Dalarna the sample strips run in the same direction, namely, NNE - SSW. In the two northern districts they are distant 20 km. and in the other districts 10 km. from one another. In the other districts of Sweden, except in the island of Gotland, the strips are separated by a space of 5 km. In the eastern part of Sweden the strips run E and W; in the western part they run NNW - SSE. In the island of Gotland the strips are not more than 2 km. apart, and run E and W. There is a double reason why the strips should be closer together in the south of Sweden than in the north: the districts of the north are at once more thickly wooded and larger in area than the southern districts. The area which it is intended to survey in the projected scheme is 43,550 hectares.

The Commission calculate that the cost of carrying out the work, if it is to be completed within ten years, will be 818,000 crowns, and 843,000 if it is intended to complete the survey within the space of six years. In these calculations the cost of elaborating the results of the survey has been included.

SWITZERLAND.

LAND IMPROVEMENT IN SWITZERLAND.

SOURCES :

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- ANNUAIRE AGRICOLE DE LA SUISSE. (*Swiss Agricultural Yearbook*). Published by the Federal Agricultural Department. Fifteenth year, 1914. Berne, K. J. Wyss, 1914, pp. 261-495.
- BERICHT DES SCHWEIZERISCHEN HANDELS-, INDUSTRIE- UND LANDWIRTSCHAFTSDEPARTEMENTS ÜBER SEINE GESCHÄFTSFÜHRUNG IM JAHRE 1914. (*Report of the Swiss Department of Agriculture, Industry and Commerce on its Work in the Year 1914*). pp. 52.

The duty of the encouragement of land improvement by the Confederation was first recognised in the Federal Decree of July 27th., 1884 on agricultural improvements. From that date most of the Cantons have also adopted measures for the encouragement of this branch of agricultural work. In the message addressed to the Chambers on December 4th., 1884, in support of the proposed Decree, the Federal Council defined the duty of the Confederation, declaring that subventions for land improvement might be granted in the case of undertakings of a certain size. The object is the improvement of agriculture, it was stated, not the assistance of the farmers, just in the same way as the prizes for livestock improvement can not be considered as alms. The subsidies must be proved also to be for the general interest.

The expenditure required for the encouragement of land improvement was at that time estimated at 100,000 frs. a year. The cantonal subsidy was to be at least equal to that of the Confederation, the amount of which however, was never to exceed one third of the total expenditure. But the Chambers went further than the Federal Council and in the Decree it was laid down that the subsidies given by the communes and corporations could also be taken into account in estimating the amount of the federal subsidy, which was fixed at a maximum of 40 %.

In 1893 the above Decree underwent revision, as a result of the motion (Curti and others) presented on June 8th., 1891, asking for more favourable conditions for land improvement undertakings for obtaining the fed-

eral subsidies. In its message of November 28th., 1892, the Federal Council recognised that as a matter of fact the credits granted for land improvement had not up to the present been profited by to the degree anticipated. The following figures indicating the amount of subventions granted between 1885 and 1891 show to what extent the credit had been drawn upon :

1885	Fr. 1,456
1886	» 24,814
1887	» 595
1888	» 20,606
1889	» 19,843
1890	» 19,874
1891	» 29,970

However, the Federal Council was unable to favour an improvement of the conditions, in the sense of reducing the charges to be borne by the Cantons and increasing those to be supported by the Confederation. It judged that if the credit was not profited by in larger proportion, that was because all innovations of the kind require time before they become known and popular in the whole of a country, and also because in many cantons no legal provision had been made for the execution of important works of land improvement. The message further established various principles, still in force to-day, such as, a work of land improvement is not to be carried out unless it may be presumed that the increased value of the land due to the improvement will be able to serve for the payment of interest and the amortisation of the capital invested. Consequently subventions can only be allowed by the Confederation in the case of undertakings the return from which may be considered as assured. The State subsidies are intended to facilitate the proper execution of the land improvement works and to ensure the execution of undertakings requiring the concurrence of many land owners.

The message then laid it down that financial participation on the part of the Canton is a *sine qua non* for the grant of the federal subvention. The Confederation must in fact have a guarantee that the plans for land improvements, before being submitted to it, have been examined by the competent authority and that the works will be supervised by it. This object can only be attained if the cantons also have a financial interest in the works.

This view was shared by the Federal Chambers and thus the provisions proposed by the Federal Council were adopted without amendment and were definitely embodied in the law of December 22nd., 1893 on improvement of agriculture by the Confederation.

We reproduce below the provisions in question as well as those of the Executive Regulations of July 10th., 1894.

Federal Law of December 22nd., 1893 on Improvement of Agriculture by the Confederation. (C) Land Improvement.

Art. 9. — The Confederation shall subsidise, under the following conditions, undertakings for the purpose of land improvement and the facilitation of agriculture.

(a) Applications for subventions must be submitted by the Cantonal Governments to the Federal Council before the work is commenced; these applications must be accompanied with the necessary information in regard to the nature, importance and cost of the works to be carried out, with supporting documents.

(b) The subsidy granted by the cantons, communes or corporations must be at least equal to that of the Confederation. The latter must not, as a rule, exceed 40 % of the total costs. The Confederation shall not contribute to the cost of maintenance of the work. In exceptional cases and in case of necessity, a subsidy from the Confederation, up to the amount of 50 % of the real expenditure may also be granted to syndicates and corporations to the works undertaken by which the canton or commune does not contribute or only contributes a smaller amount, provided that the work is well carried out.

(c) In each particular case the cantonal government must engage to maintain the works of improvement carried out, reimbursing itself from the communes, corporations or individuals.

(d) The federal subsidy shall be paid, as a rule, after execution of the works and their inspection by the federal authority.

Art. 10. — The Federal Council shall every year fix the amount of the subsidies to be granted to the various Cantons, on the basis of the amount placed on the estimates for land improvement.

Art. 11. — The Federal Council may engage the technical staff required for the examination of the applications for subvention and for the chief supervision in this field, as required. The Federation shall contribute to the costs of the preparatory technical works, as provided in article 9. It shall assign to the Cantons, which alone or in concert with other Cantons employ specialists, subventions of amount up to 50 % of the remuneration granted to these functionaries.

Executive Regulations of July 10th., 1894. (C) Land Improvement.

Art. 44. — Applications for subsidies towards payment of expenses for works of land improvement must be addressed to the Federal Department of Agriculture before the works are commenced.

With these applications information must be supplied :

(a) in regard to the proprietors, the situation (on the Dufour or the Siegfried map) and area of the farms to be improved ;

(b) the nature, the necessity and the extent of the works to be carried out.

(c) the amount of the subsidies granted by the Canton or other corporate bodies having themselves no interest in the land in question ;

(d) the person to whom the delegate appointed by the federal authority must address himself before proceeding to study the plan and in order to obtain the requisite information.

Art. 45. — Applications for subsidies for works of drainage or irrigation, road construction, redistribution of parcels, etc., must be accompanied by plans or copies of plans on tracing cloth on a suitable scale (as a rule, 1:1,000), folded to the size of ordinary documents (as a rule, 25 × 35 cm. or at most 27 × 40 cm.).

The plans for drainage must show the contour lines, and the depth and slope of the cuttings, the angles of inclination, the calibre of the drain pipes and the points at which soundings have been made and the ground examined.

The plans for the other works above mentioned must be accompanied, as required, by longitudinal and transverse sections.

Applications in relation to the improvement of mountain pastures must be accompanied, if they relate to the land, with outline plans established in accordance with those in the cadastre, if there are any, or the Siegfried map, and, if they relate to buildings, with plans or customary copies (also of the size of documents) and the necessary indications.

Art. 46. — The Federal Department of Agriculture is also authorized in exceptional cases to examine applications not accompanied by definite plans, and, subject to the definite decision of the Federal Council, to take them into consideration and fix the amount of the federal subsidy to be given for the preliminary studies and the preparation of plans and estimate.

Art. 47. — The Federal Council, on the proposal of the Department, on the basis of the plans and the estimate of expenditure, shall decide both in regard to the grant of the federal subvention itself, and the maximum amount or the contribution of the Confederation, within the limits of the maximum fixed by the federal law of December 23rd., 1893 on improvement of agriculture by the Confederation. For the estimate of the federal subvention account can only be taken of the actual expenditure shown in the accounts.

Art. 48. — The Canton, when it accepts the federal subsidy, shall engage for the supervision of the work by competent men and assure its maintenance in good order.

Art. 49. — The amount of the subsidies that can be granted for the remuneration of the agricultural engineers engaged by the Cantons shall be fixed by the Federal Council. These subsidies shall only be paid in proportion to the work done by the officers or employees in connection with rural engineering.

The only new provision in the law of 1893 still in force relates to the grant of federal subsidies up to a maximum amount of 50 %

(a) of the expenditure required for the execution of land improvement works by syndicates or corporations receiving no subsidy, or an insufficient amount, from the Canton or Commune,

(b) of the remuneration granted to the cantonal agricultural engineers. The Federal Council, however, has not thought fit — in consideration of the consequences it would entail — up to the present to avail itself of the right of granting subventions to undertakings not benefiting by an allowance from third parties not interested. And it is only in exceptional cases such subventions could be granted. On the other hand, contributions out of the federal funds have been made towards the remuneration of agricultural engineers; these grants have induced more than half the cantons to found land improvement services.

While in 1895 there were only two cantons that had rural engineering bureaux, in 1912 there were thirteen. The contribution of the Confederation towards the remuneration of the technical staff of these bureaux in 1912 was 42,877.40 frs. It is evident that the effect of the foundation of these bureaux on the plans of land improvement has been good; the plans are now better prepared and better thought out than those formerly presented, the authors of which often had not the necessary technical knowledge. We may say that now the proposals submitted to the federal authorities are almost all made out after a perfect system. Their number has increased considerably. When the farmers could see for themselves the results obtained by such or such an undertaking for land improvement, the projects were started everywhere on the landowners' own initiative. In this field also example has done more than precept. Some cantons have also established a rural code the provisions of which have largely assisted the formation of new undertakings. We give below a few figures to show the increase in the number of undertakings promoted and carried out.

1885	10	1905	308
1890	40	1910	311
1895	133	1912	419
1900	159		

The amounts of the federal subsidies paid for undertakings carried out have increased in even larger proportion, although the conditions for the grant have not been changed.

The payments made were as under :

	Fr.
1885	1,456
1890	19,874
1895	181,389
1900	341,189
1905	477,573
1910	662,619
1912	1,273,233

Whilst the principles followed in granting the subsidies have remained the same, there were some changes made in respect to the calculation of the rate of the subvention, between the year 1885 and 1912.

At first, the subsidies sometimes amounted to 40 % of the actual expenditure (all legal conditions being satisfied). In time, the maximum subsidy was only very rarely granted, since the credit granted by the Chambers, though it had been considerably increased, had to be economised owing to the increase in the number of applications for subventions. It is true that, in establishing the federal subsidy, the amount of the cantonal subvention as almost always been taken into full consideration, whilst account was not taken, or only to a certain degree, of the subsidies granted by the communes or corporations. Especially were the subsidies refused when money was advanced by anyone who had interest of any kind in the undertaking.

The amount of subvention is calculated, within the limits allowed, according to the expenditure for the preparation of the scheme and estimate, the outline plan, the execution of the work and its immediate supervision.

On the other hand, no account can be taken for the purposes of the federal subsidy:

(1) of expenses in connection with other preliminary works, the time taken by the authorities, the sessions of commissions, loans, interest etc;

(2) of expenditure occasioned for purchase of land, unless the parcels had to be bought from third parties not interested in the undertaking and to ensure the execution of the proposed improvement works;

(3) the value of the materials supplied by the owners of the land to be improved, such as wood, stones, gravel or sand, or the value of the labour they supply, except in the case of syndicates working under the constant supervision of agents of the State, and when the work has not been in preference given out on contract;

(4) of very small undertakings for which the expenses of study, supervision and execution of the work as well as the permanent supervision of its maintenance would be out of proportion to the real yield;

(5) of trenching land, sowing and any other preparation for farming;

(6) of the extirpation of weeds or plants other than ligneous;

(7) of the planting of hedges or the erection of wooden fences.

As a rule, undertakings, requiring the formation of special syndicates, benefit by large subsidies; in fact, as the formation of these associations is often impeded by the expenses, it has to be encouraged. In the same way, if, owing to special circumstances, a scheme necessitates expenses out of proportion to the area, volume etc., it is attempted to reduce them by the grant of a higher federal subsidy.

This financial intervention of the Confederation in behalf of land improvement, which has met with unhoped for success, was most happily completed by various provisions of the Swiss Civil Code (Federal Law of December 10th., 1907).

Thus, articles 690-693 establish the principle that a landowner is obliged to receive the water drained off from a higher holding and establishes the conditions;

Articles 702 and 703 make the participation of the landowners interested

in various undertakings for land improvement, including the redistribution of parcels, obligatory under certain conditions;

Articles 802-804 contain provisions relating to the transfer of the mortgages on real estate at the time of the redistribution of parcels.

Articles 820 and 821 create preference rights in favour of mortgages constituted in consequence of the increased value of a holding due to the improvement of the land;

Finally, article 954 provides for the exemption from payment of charge for entries in the land register in consequence of land improvement or an exchange of land for the purposes of readjustment.

It is true that the effect of the provisions we have just mentioned will only be felt in the course of years. The results obtained up to the present in land improvement are due to the various measures previously adopted by the Confederation and the Cantons amongst which the grant of subsidies is of most importance.

In the period from 1885 to 1912 the following works were carried out with the help of the federal subsidies:

A. — Land Improvement in the Plains.

	Total Expenditure	Federal Subsidies
1. Drainage and Irrigation fr.	13,322,701	3,803,692
2. Road Construction »	2,279,384	679,088
3. Redistribution of Parcels »	2,822,337	1,036,127 (1)
4. Other Land Improvements »	2,339,544	625,726
Total fr.	20,763,966	6,234,633

B. — Improvement of Alpine and other Pasture Land fr.	14,108,687	3,245,305
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Total fr.	34,872,653	9,479,938
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In spite of all the measures passed for the encouragement of land improvement, the number and importance of these undertakings in Switzerland would not have been so great if the farmers had not been stimulated by

(1) See in this connection the article by M. Disereus "The Restriping of Holdings: its Present State and Practical Results" in the *Monthly Bulletin of Economic and Social Intelligence* IVth. Year, March, 1913, pp. 128-152.

ample. Many schemes, among which we include also those executed without State subsidies, were only undertaken after the parties concerned were able to see the results obtained by other land improvement works.

Nevertheless, there is still much to be done in this field. Apart from numerous small undertakings there are also large land improvement schemes waiting execution. It is evident that many of them cannot be studied before the work of the regulation of streams, which often has to precede the work of land improvement, has been carried out. Now many streams have been regulated in the course of the last few decades; so it is possible to begin and bring under cultivation large areas, the increased yield of which will in some part justify the heavy expense of this regulation.

As the produce of the soil increases and the land is better worked, it will provide work for more labourers and support a larger population. The rural exodus will also be checked and the population will be better assured of its food supply. Any sacrifices made will thus have been made in the interest of the country itself and for the protection of the State. They will constitute a well invested capital, which will yield a large interest for the Swiss national economy.

* * *

In order to complete the information here given in regard to (A.) *The Land and Improvements in the Plains* and (B.) *The Improvement of Alpine and other Pasture Land*, carried out with the help of federal subsidies, we summarise in the following table the works carried out between 1885 and the end of 1912, grouping them according to the nature of the improvements.

Land Improvement in Plains and on Mountains between 1885 and the End of 1912
According to the Nature of the Improvement.

Nature of the Improvement	Area or Length	Work Carried out		Subventions from			
		Number	Expenditure Entitling to Subventions	Con-federation	Canton	District, Commune, or Corporation	
			Fr.	Fr.	Fr.	Fr.	
<i>(A) Improvements in the Plains:</i>							
1. Drainage.	ha.	16,654	1,484	11,451,805	3,273,438	2,854,456	645,159
2. Irrigation	ha.	4,627	57	645,304	215,835	19,451	213,564
Irrigation Canals, "bisses" etc.	m.	27,646	14	267,317	91,668	21,982	73,000
3. Canals and Canalisation	m.	98,803	73	958,275	312,751	271,010	52,438
4. Redistribution of Parcels	ha.	6,893	133	2,822,337	1,036,127	740,863	345,841
5. Road Construction	m.	227,302	155	2,279,384	679,088	467,874	470,910
6. Restoration of the Condition of Land. Warping etc.	ha.	1,439	209	1,657,229	423,189	349,235	77,878
7. Other Improvements	—	—	213	682,315	202,537	161,340	50,372
	—	—	2,338	20,763,966	6,234,633	4,886,211	1,929,285
<i>(B) Improvement of Alpine and other Pasture Land.</i>							
1. Drainage.	ha.	760	250	632,830	143,822	134,271	12,871
2. Irrigation	ha.	304	42	52,831	15,999	7,368	11,666
3. Canals and Canalisation of Streams	m.	(m.8,723)	(7)	35,984	8,991	7,683	2,017
4. Road Construction: Roads for Manure etc.	m.	398,818	442	1,010,148	242,922	207,849	57,497
Alpine Roads	m.	657,851	169	2,802,970	685,846	583,230	169,015
Aerial Ways	m.	54,202	22	89,972	21,980	20,382	4,612
5. Building of Chalets	c.m.	134,507	955	5,762,046	1,287,375	1,069,221	294,859
Manure Pits	c.m.	3,547	132	135,044	26,710	24,694	2,469
6. Enclosure and Retaining Walls	m.	91,258	181	341,087	77,271	73,711	7,255
7. Clearing and Removal of Stones	ha.	6,699	595	1,024,009	231,013	197,506	52,833
8. Water Pipes and Tanks etc.	m.	620,409	896	1,964,304	448,886	354,221	133,878
9. Other Improvements	c.m.	3,634	90	189,726	39,392	36,482	3,111
	—	—	13	67,736	15,098	15,027	—
	—	—	3,803	14,108,687	3,245,305	2,731,665	754,142
<i>(A) Improvements in the Plains</i>	—	—	2,338	20,763,966	6,234,633	4,886,211	1,929,285
<i>(B) Improvement of Alpine and other Pasture Land</i>	—	—	3,803	14,108,687	3,245,305	2,731,665	754,142
Total	—	—	6,141	34,872,653	9,479,938	7,617,876	2,683,427

To supplement this table we reproduce below the figures for the total expenditure of the Confederation on land improvement between 1885 and 1912, as given in the *Annuaire agricole de la Suisse* (fifteenth year, 1914), published by the Federal Department of Agriculture.

Expenditure on Land Improvement, 1885-1912.

Years	Federal Subsidies to Undertakings	Federal Subsidies to Rural Engineers, Contribution to Salary	Expenditure for Survey	Contribution to the Land Improvement Fund	Total according to the State Accounts
1885-1912 . . .	10,155,764	372,295	47,936	180,039	10,756,036

The slight difference in the figures in these two tables is due to the inclusion of the advances to undertakings not yet terminated in the total amount shown in the second table.

The "*Bericht des Schweizerischen Handel-, Industrie-und Landwirtschaftsdepartement*" for the year 1914 contains information relating to the subventions granted by the Confederation in the years 1913 and 1914 for and improvement in 23 cantons. The following table gives a summary.

Number of Cantons	Year	Number of Schemes	Subventions Assured	Subventions Paid
23	1912	419	1,471,960	1,273,232
	1913	330	1,217,392	1,114,047
	1914	275	1,227,102	1,142,528

RUGGERI ALFREDO, gerente responsabile.

